ECON 262: Principles of Statistics II
Spring 2021

Course Information

Professor Information:

> **Professor:** Dr. Katherine Lacy
> **Office:** AB 318G
> **Office Phone:** 775-682-9370; **Cell Phone:** 775-391-0103
> **Email:** katherinelacy@unr.edu
> **Office Hours:** Wednesdays 10:50 PM – 12:00 PM via Zoom (link same as class that day) and by appointment

Email:

Please include the course and section number when sending me an email so I know exactly which class you are referring to.

I will read and respond to course-related emails in a timely fashion (within 48 business hours) between the hours of 9 AM and 5 PM, Monday – Friday. However, I hold the right to not respond to emails I perceive as unprofessional. Please read this blog for guidelines about writing professional emails: http://mleddy.blogspot.com/2005/01/how-to-e-mail-professor.html

I will only discuss grades via WebCampus messages or on private zoom meetings. Please do not use your private email address to inquire about grades.

Professor Commitment:

You can expect me to be courteous, punctual, organized, and prepared for class activities; to answer questions clearly and in a non-negative fashion; to be available during office hours or to notify you beforehand if I am unable to keep them, and to grade uniformly and consistently according to the written guidelines. I enjoy teaching economics and statistics courses, and I look forward to working with you this semester.

Student Commitment:

I expect you to be courteous, punctual and prepared for class activities; ask questions regarding material being discussed and be prepared to enter class discussion; be respectful of others' opinions; observe classroom etiquette - be on time, turn off your cell phone, do not chat with your neighbor about non-class related activities, do not text or accept phone calls during class, do not dip or consume other tobacco products, etc. **I hold the right to remove you from zoom class if you do not follow classroom etiquette**.

Additionally, if you partake in behavior that causes class disruptions (i.e., sharing zoom meeting link and password with individuals not in the course) you will be reported to the Office of Student Conduct and subject to sanctions listed in UAM 6,502: Academic Standards (https://www.unr.edu/administrative-manual/6000-6999-curricula-teaching-research/6502-academic-standards)

I expect you to be honest and submit your own work throughout this course. The use of "study assistance" websites such as Chegg, Course Hero, Brainly, etc. is strictly prohibited on ALL assignments. Please see the Statement on Academic Dishonesty section of this Syllabus for more details.

You are **NOT** to share any of the material from this course with individuals not enrolled in this course. That includes uploading course materials to websites such as Course Hero.

Course Description:

Monday and Wednesday 10:00 AM – 10:50 AM; Friday Discussion Section (time based on enrolled section)
<u>Monday</u>: watch pre-recorded videos on own and take quiz
<u>Wednesday</u>: attend zoom lecture and complete application problems (with team)
<u>Friday</u>: attend zoom discussion section (see MyNevada for time) and complete application problems (with team)

The class is designed to familiarize students with techniques used to analyze data and gain insight into specific questions about populations. Most often, data is collected, tested, and analyzed because it has managerial and/or research implications. The material in this course will be "applied"; that is, you will learn how to apply the appropriate statistical techniques to data with the intention of improving your decision-making ability.

Course Pre-requisites:

ECON 261 and IS 101

Required texts, course materials:

Business Statistics: Communicating with Numbers by Jaggia and Kelly
The textbook and a subscription to the McGraw-Hill Connect system are **required** for this course. You can access the Connect page for this course through WebCampus. Go to "McGraw-Hill Connect" on the left side menu and create an account or sign in.

You are **required** to use Excel during each class period. Microsoft Word, Excel, and PowerPoint, are free for you to download through the University. Here is a link to the instructions: https://oit.unr.edu/services-and-support/software-and-online-applications/software-purchasing-and-installation/microsoft-office-365-for-personal-computers/install-microsoft-office-for-home-student/.

A webcam and microphone are required to participate in class remotely.

Student Learning Outcomes:

From the course description - Upon completion of this course:
1. Students will be able to apply the methodology of basic hypothesis testing and understand how the process is used in business decision making.
2. Students will be able to correctly identify and apply appropriate statistical tests for quantitative and qualitative single and two population parameters.
3. Students will be able to use and interpret correlation and develop simple and multiple regression models to address a variety of business examples.
4. Students will be able to develop and interpret output provided by statistical software for the statistical procedures covered in the course and be able to adequately verbalize the statistical conclusions provided by the software output.

Based on the course design – Upon completion of this course:
1. Students will be able to work in a team setting effectively.
2. Students will be able to provide teammates with critical criticism.
3. Students will be able to identify the appropriate statistical tests, run these tests using Excel's data analysis toolpak, and accurately interpret the test results.

Team-Based Learning and Lecture:

This class will incorporate elements of team-based learning and will use a variety of both individual and team assignments to help you learn the course material. Some of the content is covered individually with readings and short problems completed outside of class. Class time will include lecture, which will build upon outside reading and application activities completed in teams during class.

Teams:

Teams will be assigned on the second day of class and will remain together the entire semester. You will complete applications with your team via zoom breakout rooms on Wednesdays and Fridays. *You are expected to participate in the team activities when in your zoom breakout room with your video on.* If you have any concerns about this, please reach out to Dr. Lacy. Also, you will complete three Data Analysis Reports due before each exam during the semester.

You will have access to a team page via WebCampus where you can chat with your teammates and share files. You are also encouraged to share contact information, start group texts, and have a shared google drive folder.

Working in teams throughout the semester is NOT an excuse to slack off and free ride. To discourage free riding, you will be graded by your teammates three times throughout the semester (see the Peer Evaluation section).

Attendance:

You are expected to attend every Wednesday and Friday class and will be graded on attendance. In order to be marked as present, **your camera must remain on during the entire class period**. If either myself or a TA enters your team breakout room and your camera is not on for an extended period of time, you will be marked as absent. For privacy concerns, using a virtual background is encouraged. No make-ups will be provided for a missed homework assignment, quiz, or exams.

Assignment Dropping Policy:

I will drop the lowest HW grade, lowest quiz grade, lowest application grade, and lowest peer evaluation grade at the end of the semester.

If your final exam score is higher than either of the previous exams, your final exam score will replace the lowest exam score. For example, if you receive a 50 on exam 1, a 75 on exam 2, and a 90 on the final, your grades at the end of the course would be 90 on exam 1, 75 on exam 2, and 90 on the final. If you receive an 80 on exam 1, a 60 on exam 2, and a 75 on the final, your grades at the end of the course will be 80 on exam 1, 75 on exam 2, and 75 on the final. If you receive an 80 on exam 1, a 90 on exam 2, and decide not to take the final, your grades at the end of the course will be 80 on exam 1, 90 on exam 2 and ZERO on the final (you are required to take the final. Your exam grades do NOT replace your final). **Grade replacements will NOT be completed on WebCampus.

Videos:

Class lecture will be provided through pre-recorded videos and remain on WebCampus the entire semester. This allows you to refer back to the videos at any time. In addition to lecture videos, there will be excel tutorials associated with each chapter.

Each week will have its own module where you can find the lecture notes (Word or PowerPoint documents you can fill in while watching the video), lecture videos, excel files, excel tutorials, and links to the day's quiz and homework.

Microsoft Word, Excel, and PowerPoint, are free for you to download through the University. Here is a link to the instructions: https://oit.unr.edu/services-and-support/software-and-online-applications/software-purchasing-and-installation/microsoft-office-365-for-personal-computers/install-microsoft-office-for-home-student/.

Calculators:

Phones may NOT be used as calculators on quizzes and exams. Please see Dr. Lacy if you have any questions.

Quizzes:

There will be quizzes in each module to ensure you understand the material. You will have three attempts to complete the quiz with this highest score being recorded as your grade. Quizzes are due **Tuesday at 11:59 PM** but you are encouraged to complete the quizzes during class time on Monday. Missed quizzes may not be made up. I will drop your lowest quiz grade when determining your final grade at the end of the semester. All quizzes are open book and open notes.

Homework:

Graded homework through Connect will be assigned on a regular schedule and due **Sunday at 11:59 PM.** You will be notified in class when changes are made to the schedule. Late homework will NOT be accepted. You will have one attempt to complete the homework, but you will have unlimited access to the "check my work" button. I highly recommend you check your work before submitting the assignment.

Applications:

You and your team will use the foundational knowledge acquired from outside reading and class lecture to complete team application exercises. There will be applications **EVERY** Wednesday and Friday. You must be present on zoom and submit the application to receive the points for the exercise.

The applications for this course are in-class practice problems designed to help you learn the material, prepare you for the exams, and provide you with problems you could have to solve in the workplace. Although you will work on the problems together, each teammate will be expected to submit each application. Applications will open at the start of class on Wednesday and Friday and close at the end of class. No make-ups are allowed.

Peer Evaluations:

You will be asked to evaluate your team members three times during the semester. These evaluations will be completed through WebCampus and distributed to team members anonymously. The scores from all team members will be averaged to form 60% of your total score. The remaining 40% of your total grade will be based on the quality of the comments you provide your teammates. See the Peer Evaluation handout for details. If you fail to complete your peer evaluations, you will receive a zero regardless of how your teammates scored you. I will drop your lowest peer evaluation score at the end of the semester.

Included in the peer evaluation will be a section where you are to provide each teammate an effort grade on the Data Analysis Report. See the Data Analysis Report for more details.

Peer Evaluations are scheduled as follows:

Peer Evaluation 1 **Due Sunday, March 7th at 11:59 PM**
Peer Evaluation 2 **Due Sunday, April 4th at 11:59 PM**
Peer Evaluation 3 **Due Wednesday, May 5th at 11:59 PM**

Computer Software:

Excel is the software of choice in this class. There are many statistical software packages available and you may use another package if you are comfortable with that package (Stata, SAS, R). Please check with me if using different software, so that the applications may be assessed.

Data Analysis Reports:

In your assigned teams you will complete three Data Analysis Reports (DARs) throughout the semester. Your reports are to be typed and address each question in detail. A detailed rubric will be provided with each DAR instructions. The DARs are scheduled as follows:

Data Analysis Report 1 **Due Tuesday, March 3rd at 11:59 PM**
Data Analysis Report 2 **Due Tuesday, March 30th at 11:59 PM**
Data Analysis Report 3 **Due Tuesday, May 4th at 11:59 PM**

In each peer evaluation, you will be asked to provide feedback on your teammates' effort towards the DAR. Your DAR grade will be a combination of the actual report grade and your effort grade. Specifically, one third of your grade will be solely based on the DAR grade and two thirds of your grade will be the DAR grade weighted by your average effort grade. Therefore, if you are graded as providing less effort than your teammates, your grade will decrease. But, if ALL your teammates report that you provided NO effort on the report, you will receive a ZERO.

Exams:

There will be two mid-semester exams and a cumulative final in this course.

All mid-semester exams will be taken via Connect and will be proctored via Zoom. Cameras must remain on but your microphones muted. The final exam will be proctored via Proctorio. It will be required that you have a working camera and microphone. Before each exam will be an exam policies quiz. You **must** earn a 100% on this quiz in order to receive the exam password. You have unlimited attempts to complete this quiz.

You will have 60 minutes to complete Exam 1 and Exam 2 and 120 minutes to complete the Final Exam. You must notify me by 10:20 PM if you have any technical difficulties or within 20 minutes of an incident occurring during the exam. I can be contacted via email, canvas message, or phone call.

You will be **required** to use Excel during these exams. You can use one single-sided sheet (8.5 x 11 inch) of notes, handwritten or typed, for Exams 1 and 2 and two double-sided sheets for the Final.

Exam 1	**Wednesday, March 3rd**
Exam 2	**Wednesday, March 31st**
Final Exam	**Friday, May 7th (9:50 AM – 11:50 AM)**

There will be no make-up exams for missed exams (see the attendance section for my exam grading policy).

Grading Criteria, Scale, and Standards:

Scores in seven major performance areas will determine your grade:

Homework	**5%**
Quizzes	**10%**
Applications	**9%**
Peer Evaluations	**5%**
Data Analysis Reports	**21%**
Mid-semester Exams	**30%**
Final Exam	**20%**

Course letter grades will be assigned on a straight scale. There will not be any curving of the final grade.

A	93 – 100	B-	80 – 83.9	D+	67 – 69.9
A-	90 – 92.9	C+	77 – 79.9	D	64 – 66.9
B+	87 – 89.9	C	74 – 76.9	D-	60 – 63.9
B	84 – 86.9	C-	70 – 73.9	F	< 60

Course Calendar or Topics Outline:

Week	Module	Topics	Reading	Assignments
February 1st – 7th	1	Introduction to Hypothesis Testing	Sections 9.1 & 9.2	Quiz due 2/2 at 11:59 PM HW due 2/7 at 11:59 PM
February 8th – 14th	2	One-Sample Hypothesis Tests	Sections 9.3 & 9.4	Quiz due 2/9 at 11:59 PM HW due 2/14 at 11:59 PM
February 15th – 21st	3	Two-Sample Hypothesis Tests for Means	Sections 10.1 & 10.2	Quiz due 2/16 at 11:59 PM HW due 2/21 at 11:59 PM
February 22nd – 28th	4	Two-Sample Hypothesis Tests for Proportions	Section 10.3	Quiz due 2/23 at 11:59 PM HW due 2/28 at 11:59 PM
March 1st – 7th		Data Analysis Report 1 (due 3/2 at 11:59 PM) **Exam 1 – WEDNESDAY, MARCH 3RD** Peer Evaluation 1 (due 3/7 at 11:59 PM)		
March 8th – 14th	5	Chi-Square Tests	Sections 12.1 & 12.2	Quiz due 3/11 at 11:59 PM* HW due 3/14 at 11:59 PM
March 15th – 21st	6	One-way ANOVA and Comparison Tests	Sections 13.1 & 13.2	Quiz due 3/16 at 11:59 PM HW due 3/21 at 11:59 PM
March 22nd – 28th	7	Two-way ANOVA	Section 13.3	Quiz due 3/23 at 11:59 PM HW due 3/28 at 11:59 PM
March 29th – April 4th		Data Analysis Report 2 (due 3/30 at 11:59 PM) **Exam 2 – WEDNESDAY, MARCH 31ST** Peer Evaluation 2 (due 4/4 at 11:59 PM)		
April 5th – 11th	8	Correlation & Linear Regression	Sections 14.1, 14.2 & 15.1	Quiz due 4/6 at 11:59 PM HW due 4/11 at 11:59 PM
April 12th – 18th	9	Test of Significance & Dummy Variables	Sections 14.3 & 17.1	Quiz due 4/13 at 11:59 PM HW due 4/18 at 11:59 PM
April 19th – 25th	10	Assumptions and Violations	Section 15.4	Quiz due 4/20 at 11:59 PM HW due 4/25 at 11:59 PM
April 26th – May 2nd	11	Data Analysis Report 3	--	--
May 3rd – May 9th		Data Analysis Report 3 (due 5/4 at 11:59 PM) Peer Evaluation 3 (due 5/5 at 11:59 PM) Final Exam Review Session – Wednesday 5/5 10:00 AM – 12:00 PM **Final Exam – FRIDAY, MAY 7TH 9:50 AM – 11:50 AM**		

* Tuesday 3/9 and Wednesday 3/10 are reading days. The quiz will be due on Thursday 3/11

University Policies

Statement on Academic Dishonesty:

You are expected to follow all assignment policies, be honest and submit your own work throughout this course. The use of "study assistance" websites such as Chegg, Course Hero, Brainly, etc. is strictly prohibited on ALL assignments. While you may work on the Homework with your classmates, you may NOT seek assistance on the quizzes and exams from anyone besides Dr. Lacy. If you are caught cheating you will be charged with Academic Dishonesty. Please see the University Statement below with a link to the specific UAM section.

"The University Academic Standards Policy defines academic dishonesty, and mandates specific sanctions for violations. See the University Academic Standards policy: UAM 6,502."

WARNING: I check Chegg to make sure my exam questions are not present on their website before, during, and after the exam. My exams are also designed to easily identify cheaters. I take exam integrity VERY seriously and most exam cheating situations results in the student receiving a permanent F in the course.

I do understand that this course can be challenging, but that is no excuse for cheating. I made the pre-recorded videos so you can watch and re-watch them at your own pace. I am also available to meet via zoom to review the material you are struggling with. It is in your best interest to come to me for assistance and not rely on websites like Chegg for assistance. Being provided the answers does not aide in your learning of the material. Also, many Chegg answers and steps to solving a problem are incorrect, which is why it is very easy to identify Chegg users.

Statement of Disability Services:

"Any student with a disability needing academic adjustments or accommodations is requested to speak with me or the Disability Resource Center (Pennington Achievement Center Suite 230) as soon as possible to arrange for appropriate accommodations."

This course may leverage 3rd party web/multimedia content, if you experience any issues accessing this content, please notify your instructor.

Statement for Academic Success Services:

"Your student fees cover usage of the Math Center (775) 784-4433, Tutoring Center (775) 784-6801, and University Writing Center (775) 784-6030. These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student."

Statement on Audio and Video Recording:

"Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

Statement on Failure to Comply with Policy (including as outlined in this Syllabus) or Directives of a University Employee:

"In accordance with section 6,502 of the University Administrative Manual, a student may receive academic and disciplinary sanctions for failure to comply with policy, including this syllabus, for failure to comply with the directions of a University Official, for disruptive behavior in the classroom, or any other prohibited action. "Disruptive behavior" is defined in part as behavior, including but not limited to failure to follow course, laboratory or safety rules, or endangering

the health of others. A student may be dropped from class at any time for misconduct or disruptive behavior in the classroom upon recommendation of the instructor and with approval of the college dean. A student may also receive disciplinary sanctions through the Office of Student Conduct for misconduct or disruptive behavior, including endangering the health of others, in the classroom. The student shall not receive a refund for course fees or tuition."

The University of Nevada, Reno is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, or stalking, whether on or off campus, or need information related to immigration concerns, please contact the University's Equal Opportunity & Title IX office at 775-784-1547. Resources and interim measures are available to assist you. For more information, please visit the [Equal Opportunity and Title IX](#) page.