Math 11: Elementary Statistics
Syllabus and Course Outline for Spring 2016

Class Information

Section: 56219
Day: Monday, Tuesday, Wednesday, and Thursday
Time: 8:00-8:50am
Building: Forestry, Engineering, & Math
Room: 3

Office Hours
Daily: 10:00-10:45am
Room: Forestry, Engineering, & Math 1N

About Your Instructor
Name: Ryan Lowenstein
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Textbook Required
Introductory Statistics
Author: Neil A. Weiss
Edition: 10
ISBN: 978-0-13-427036-4

Textbook Note
Homework Assignments will come directly from this textbook **and** from MyStatLab, an online account synced with Blackboard. Both the hardcover and MyStatLab are included in the bookstore price of $165.35. **All** homework assignments will be posted on Blackboard.

Estimated Schedule:

Week	Month	Day	Section(s) Covered	Course Topic
1	January	11	Syllabus	Summarizing Data
		12	1.1	Graphically and
		13	1.2	Numerically
		14	2.1	
2		18	Martin Luther King Day; No Class	
		19	2.2	
		20	2.3	
		21	2.4	
3		25	2.5	
		26	3.1	Descriptive Statistics
		27	3.2	
		28	3.2 cont.; Last day to drop without getting "W"	
4	February	1	3.3	
		2	3.4	
		3	3.5	
		4	Mock Test 1	
5		8	Test 1	
		9	4.1	
		10	4.2	Probability
		11	4.3	
6		15	Washington's Birthday; No Class	
		16	5.1	
		17	5.2	
		18	5.3	

Week	Month	Day	Topic	
7		22	6.1	
		23	6.1 continued	
		24	6.2	
		25	6.3	
8		29	6.3 continued	
	March	1	6.4	
		2	Mock Test 2	
		3	Test 2	
9		7	Review for Midterm	
		8	Midterm	
		9	7.1	Sampling Theory
		10	7.2; Last day to drop	
10		14	7.3	
		15	8.1	Estimating
		16	8.1 continued	Population
		17	8.2	Parameters
11		28	8.3	
		29	9.1	Parametric
		30	9.2	Hypothesis Testing
		31	9.2 continued	
12	April	4	9.3	
		5	9.4	
		6	9.5	
		7	Mock Test 3	
13		11	Test 3	
		12	10.1	
		13	10.2	
		14	10.3	
14		18	10.5	
		19	11.1	
		20	11.2	
		21	12.1	
15		25	12.2	
		26	12.3	
		27	14.1	Correlation and
		28	14.2	Simple Linear
16	May	2	14.3	Regression
		3	14.4	
		4	15.1	Nonparametric
		5	15.2	Hypothesis Testing
17		9	Mock Test 4	
		10	Test 4	
		11	Review for Final Exam	
		12	Review for Final Exam	
18		18	Final Exam	

Catalog Description

This course is an introduction to statistical methods and techniques with applications in the fields of business, behavioral and social sciences, as well as in science, technology, engineering, and mathematics. Topics include descriptive measures of central tendency and variability, probability, binomial and normal distributions, random variables, sampling, estimating, hypothesis testing (parametric and nonparametric), correlation and regression.

Grade Breakdown

Category	Weight of Overall Grade
Tests	70%
Homework	20%
Participation	10%

Grading Scale

Minimum Percent Required	Grade
91	A
82	B
73	C
64	D

Grades will be updated regularly Online

Test Dates

Test	Sections	Date	Weight of Overall Grade
1	1.1-3.5	Monday, February 8	9%
2	4.1-6.4	Thursday, March 3	9%
Midterm	1.1-6.4	Tuesday, March 8	14%
3	7.1-9.5	Monday, April 11	9%
4	10.1-15.2	Tuesday, May 10	9%
Final	1.1-15.2	Wednesday, May 18	20%

Test Materials

Approved	Unapproved
Pencil	Textbook
Eraser	Notes
Microsoft Excel	Calculator
Ruler	Cellphone
Pen	Anything Else

Formula sheets and scratch paper will be provided

Types of Test Questions

Difficulty	Brief Description	Prevalence
Basic	Easier Question from Homework	30% of Test
Proficient	Harder Question from Homework	60% of Test
Advanced	Modified Question from Homework	10% of Test

Test questions are **randomly** selected from the homework

Miscellaneous Test Information

Only **one** person may leave the room at a time

Requirements to Receive Full Credit for a Question
Work Leading to Correct Answer
Correct Answer

There is a 50 minute time limit

Quizzes
Several unannounced quizzes will be administered throughout the semester. Quiz questions will be randomly selected from previously due homework assignments and will be graded in the same way as in exams.

Participation
Typical classwork assignments include clicker questions, group work, and other activities. About 90% of these assignments must be completed in order for a student to earn full participation for the semester. Students who complete less than 90% of the classwork will earn no credit for participation. Also, students who miss more than four classes will automatically be dropped from the class.

Homework
On a weekly basis, questions are usually assigned online (MyMathLab), which are graded on the correct answer, and occasionally assigned from the textbook (handwritten), which are graded on the correct steps.

Behavior

Expected	Unwelcome
Asking Questions	Talking over the Instructor
Taking Notes	Texting or on the Phone
Helping Others	Checking Facebook or Email
Participating	Sleeping
Positive Attitude	Doing Homework
Punctual Attendance	Packing up Early

The instructor has the right to remove students from the classroom at any time

Late Work Policy
Up to six homework assignments may be completed after the deadline for a 50% reduction in overall score.

Make-Up Test Policy
Students who miss a test are **never** guaranteed a make-up. Make-up tests are only administered to students in extenuating circumstances and must be scheduled as far in advance as possible. Students may replace their lowest test score with the grade they earn on the final exam only if they complete all homework from the semester with the exception of four missing assignments or less.

Tutoring
Both Reedley College's Tutorial Center (Library Building, Room LRC 111) and STEM Math Study Center (Forestry, Engineering, & Math, Room 1) offer free tutoring for both students who need help with the concepts presented in this class (recommended when one's grade falls below 82%) and students who have trouble meeting deadlines.

Examples of Cheating

Tests	Classwork and Homework
Using a forbidden test material	Copying another person's assignment
Looking away from one's paper	Looking at the solutions (manual or online)
Talking to another person	Having another person do the assignment for you

Cheating violates Reedley College's Academic Integrity; zero credit will be earned for cheated assignments

Universal Design
This class will try its best to incorporate the special needs of English Learners, students with disabilities, and everyone else. If one feels that his or her needs are not being met, please bring this to the instructor's attention so a solution can be found.

Students with Disabilities Policy
In compliance with ADA guidelines, students who have any condition, either permanent or temporary, that might affect their ability to perform in this class are encouraged to inform the instructor at the beginning of the term. Use of accommodations can start when the instructor receives the Notification of Authorized Services form with the accommodations listed. The granting of any accommodation will not be retroactive and cannot jeopardize the academic standards or integrity of the course.

Equity and Diversity
Reedley College is committed to ensuring equality and valuing diversity. Students and instructors are reminded to show respect at all times.

Course Outcomes
At the end of the course, students should be able to relate and apply statistical concepts in their everyday lives. For example, they should be able to recognize contextual data while reading about current events in the newspaper and journal articles, as well as possess the ability to interpret both graphical and descriptive measures in the process. Students should also be able to see how probability is used to make predictions in real-world settings, such as business decisions, with the knowledge of identifying random variables and their

probability distributions. Most importantly, the Normal Distribution and its importance in sampling distributions need to be second nature to students so they can perform their own statistical procedures in the future, like when writing a thesis or working on a project, which will include confidence intervals and hypothesis tests.

Course Objectives
In the process of completing this course, students will:
1. Distinguish among different scales of measurement and their implications
2. Identify the standard methods of obtaining data and identify advantages and disadvantages of each
3. Interpret data displayed in tables and graphically
4. Calculate measures of central tendency and variation for a given data set
5. Apply concepts of sample space and probability
6. Calculate the mean and variance of a discrete distribution
7. Calculate probabilities using normal and t-distributions
8. Distinguish the difference between sample and population distributions and analyze the role played by the Central Limit Theorem
9. Construct and interpret confidence intervals
10. Determine and interpret levels of statistical significance including p-values
11. Interpret the output of a technology-based statistical analysis
12. Identify the basic concept of hypothesis testing including Type I and II errors
13. Formulate hypothesis tests involving samples from one and two populations
14. Select the appropriate technique for testing a hypothesis and interpret the result
15. Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics

Personal Statement
The instructor of this course understands that the subject of mathematics is difficult and carries a negative preconception among many students. Hence, he values a conceptual understanding of the content and wants to help students succeed in his class, as long as they are willing to do their share of the work.

Disclaimer
The information in this syllabus is subject to change in the event of extenuating circumstances.