COMM 2513 Syllabus

Introduction to Statistics

Purpose of the Course
This course introduces statistics with the purpose of providing tools for interpreting and conducting social science research. Topics include:

- Central tendency;
- Different sampling methods, including Simple Random, Stratified, Systematic, and Cluster Sampling;
- Organizing data in histograms, pie charts, bar graphs, stem-and-leaf plots, etc.;
- Identifying shapes of distributions;
- Measures of central tendency, dispersion, and position and outliers;
- Determining and interpreting $z$-scores;
- Least-squares regression and coefficient of determination;
- Probability rules;
- Discrete random variables;
- Binomial probability distribution, properties of the normal distribution, distribution of the sample mean;
- Confidence intervals;
- Hypothesis testing;
- Correlation;
- Regression;
- $T$-tests;
- ANOVAs; and
- Nonparametric statistics.

Course Description
This course is designed to acquaint the student with the terms and concepts of statistical analysis.

Course Objectives
As a student in this course, you will:

- Define and utilize the different terms used in statistics.
- Define and utilize the different methods used to sample data.
- Organize data in different ways, including histograms, pie charts, bar graphs, stem-leaf plots, etc.
- Identify shapes of distributions.
- Define measures of central tendency, dispersion, position, and outliers.
- Define probability rules.
- Determine and interpret $z$-scores.
- Describe least-squares regression and the coefficient of determination.
- Discuss binomial probability distribution, the properties of normal distribution, and the distribution of the sample mean.
• Define and utilize the following: confidence intervals, correlation, regression, ANOVA, and nonparametric statistics.
• Estimate a population mean.

Required Text and Materials

You will also need a calculator and access to a computer equipped with high-speed internet access.

Prerequisite
MATH 0123 at OU or a satisfactory score on the math placement test.

Lesson Assignments
All your coursework is going to be done in MyStatLab. You will need to register in the MyStatLab system as soon as possible upon entering your course. You will need an email address, an activation code, and the course code located on the content tab under course information in the PDF file entitled “How to Enroll in MyStatLab.”

Exams
Introduction to Statistics includes four exams. Exam 1 will be taken after completing Lesson 6, the second exam will be taken after completing Lesson 11, the third exam will be taken after Lesson 17, and the final exam will be taken after Lesson 20. Each exam will be 25 questions in length and include objective (multiple-choice) and fill-in-the-blank questions, all of which will be taken in MyStatLab.

About the Grading
Your course grade will be based on your scores on the 20 homework assignments, 20 posttests, and four exams.

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<th>Category</th>
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Grading Scale

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<td>59 or fewer</td>
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Academic Integrity
As a student taking a course at the University of Oklahoma, you are expected to uphold the academic integrity code. Please visit the Academic Integrity website at http://www.ou.edu/integrity and familiarize yourself with the standards you will be held to while taking your course.

Religious Observance
It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays without penalty.

Reasonable Accommodation Policy
Students requiring academic accommodation should contact the Accessibility and Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information, please see the Accessibility and Disability Resource Center website at http://www.ou.edu/drc. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact the instructor personally as soon as possible to discuss accommodations necessary to ensure full participation and facilitate educational opportunities.

Adjustments for Pregnancy-Related and Childbirth-Related Issues
Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. Please visit the Institutional Equity Office website at http://www.ou.edu/eoo/faqs/pregnancy-faqs for commonly asked questions.

Title IX Resources and Reporting Requirement
For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on call 24/7, counseling services, mutual no-contact orders, scheduling adjustments, and disciplinary sanctions against perpetrators. Please contact the Sexual Misconduct Office at 405-325-2215 (8 to 5, M–F) or OU Advocates at 405-615-0013 (24/7) to learn more or to report an incident. In addition, please be advised that a professor/GA/TA is required to report instances of sexual harassment, sexual assault, or discrimination to the Sexual Misconduct Office. For more information, please visit the Institutional Equity Office website at http://www.ou.edu/eoo/.
Course Plan for COMM 2513

Lesson 1
1. Read Section 1.1: Introduction to the Practice of Statistics in the Sullivan text.
2. View the Lesson 1: Introduction to Statistics presentation in Canvas.
3. View the Lesson 1 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 1 Pretest in MyStatLab.
5. Complete the Lesson 1 Homework in MyStatLab.
6. Complete the Lesson 1 Posttest in MyStatLab.

Lesson 2
1. Read Section 1.3: Simple Random Sampling and Section 1.4 Other Effective Sampling Methods in the Sullivan text.
2. View the Lesson 2: Sampling Methods presentation in Canvas.
3. View the Lesson 2 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 2 Pretest in MyStatLab.
5. Complete the Lesson 2 Homework in MyStatLab.
6. Complete the Lesson 2 Posttest in MyStatLab.

Lesson 3
1. Read Section 2.1: Organizing Qualitative Data and Section 2.2: Organizing Qualitative Data: The Popular Displays in the Sullivan text.
2. View the Lesson 3: Organizing and Summarizing Data presentation in Canvas.
3. View the Lesson 2 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 3 Pretest in MyStatLab.
5. Complete the Lesson 3 Homework in MyStatLab.
6. Complete the Lesson 3 Posttest in MyStatLab.

Lesson 4
1. Read Section 3.1: Measures of Central Tendency in the Sullivan text.
2. View the Lesson 4: Measures of Central Tendency presentation in Canvas.
3. View the Lesson 4 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 4 Pretest in MyStatLab.
5. Complete the Lesson 4 Homework in MyStatLab.
6. Complete the Lesson 4 Posttest in MyStatLab.
Lesson 5
1. Read Section 3.2: Measures of Dispersion in the Sullivan text.
2. View the Lesson 5: Measures of Dispersion presentation in Canvas.
3. View the Lesson 5 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 5 Pretest in MyStatLab.
5. Complete the Lesson 5 Homework in MyStatLab.
6. Complete the Lesson 5 Posttest in MyStatLab.

Lesson 6
1. Read Section 3.4: Measures of Position and Outliers in the Sullivan text.
2. View the Lesson 6: Measures of Position and Outliers presentation in Canvas.
3. View the Lesson 6 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 6 Pretest in MyStatLab.
5. Complete the Lesson 6 Homework in MyStatLab.
6. Complete the Lesson 6 Posttest in MyStatLab.
7. Review for Exam 1
8. Take Exam 1 in MyStatLab

Lesson 7
1. Read Section 4.1: Scatter Diagrams and Correlation in the Sullivan text.
2. View the Lesson 7: Describing the Relation between Two Variables presentation in Canvas.
3. View the Lesson 7 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 7 Pretest in MyStatLab.
5. Complete the Lesson 7 Homework in MyStatLab.
6. Complete the Lesson 7 Posttest in MyStatLab.

Lesson 8
1. Read Section 4.2: Least Squares Regression and Section 4.3: The Coefficient of Determination in the Sullivan text.
2. View the Lesson 8: Least-Squares Regression and the Coefficient of Determination presentation in Canvas.
3. View the Lesson 8 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 8 Pretest in MyStatLab.
5. Complete the Lesson 8 Homework in MyStatLab.
6. Complete the Lesson 8 Posttest in MyStatLab.
Lesson 9
1. Read Section 5.1: Probability Rules, Section 5.4: Conditional Probability and the General Multiplication Rule, and Section 5.5: Counting Techniques in the Sullivan text.
2. View the Lesson 9: Probability Rules presentation in Canvas.
3. View the Lesson 9 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 9 Pretest in MyStatLab.
5. Complete the Lesson 9 Homework in MyStatLab.
6. Complete the Lesson 9 Posttest in MyStatLab.

Lesson 10
1. Read Section 6.1: Discrete Random Variables in the Sullivan text.
2. View the Lesson 10: Discrete Random Variables presentation in Canvas.
3. View the Lesson 10 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 10 Pretest in MyStatLab.
5. Complete the Lesson 10 Homework in MyStatLab.
6. Complete the Lesson 10 Posttest in MyStatLab.

Lesson 11
2. View the Lesson 11: The Binomial Probability Distribution presentation in Canvas.
3. View the Lesson 11 Multimedia Assignment in MyStatLab.
5. Complete the Lesson 11 Homework in MyStatLab.
6. Complete the Lesson 11 Posttest in MyStatLab.
7. Review for Exam 2
8. Take Exam 2 in MyStatLab

Lesson 12
1. Read Section 7.1: Properties of the Normal Distribution in the Sullivan text.
2. View the Lesson 12: Properties of the Normal Distribution presentation in Canvas.
3. View the Lesson 12 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 12 Pretest in MyStatLab.
5. Complete the Lesson 12 Homework in MyStatLab.
6. Complete the Lesson 12 Posttest in MyStatLab.

Lesson 13
1. Read Section 7.2: Applications of the Normal Distribution in the Sullivan text.
3. View the Lesson 13 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 13 Pretest in MyStatLab.
5. Complete the Lesson 13 Homework in MyStatLab.
6. Complete the Lesson 13 Posttest in MyStatLab.
Lesson 14
1. Read Section 8.1: Distribution of the Sample Mean in the Sullivan text.
2. View the Lesson 14: Distribution of the Sample Mean presentation in Canvas.
3. View the Lesson 14 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 14 Pretest in MyStatLab.
5. Complete the Lesson 14 Homework in MyStatLab.
6. Complete the Lesson 14 Posttest in MyStatLab.

Lesson 15
3. View the Lesson 15 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 15 Pretest in MyStatLab.
5. Complete the Lesson 15 Homework in MyStatLab.
6. Complete the Lesson 15 Posttest in MyStatLab.

Lesson 16
2. View the Lesson 16: Estimating a Population Mean presentation in Canvas.
3. View the Lesson 16 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 16 Pretest in MyStatLab.
5. Complete the Lesson 16 Homework in MyStatLab.
6. Complete the Lesson 16 Posttest in MyStatLab.

Lesson 17
2. View the Lesson 17: Putting it All Together: Which Procedure Do I Use? presentation in Canvas.
3. View the Lesson 17 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 17 Pretest in MyStatLab.
5. Complete the Lesson 17 Homework in MyStatLab.
6. Complete the Lesson 17 Posttest in MyStatLab.
7. Review for Exam 3
8. Take Exam 3 in MyStatLab

Lesson 18
1. Read Section 10.1: The Language of Hypothesis Testing in the Sullivan text.
2. View the Lesson 18: The Language of Hypothesis Testing presentation in Canvas.
3. View the Lesson 18 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 18 Pretest in MyStatLab.
5. Complete the Lesson 18 Homework in MyStatLab.
6. Complete the Lesson 18 Posttest in MyStatLab.
Lesson 19
1. Read Section 10.2: Hypothesis Tests for a Population Proportion in the Sullivan text.
2. View the Lesson 19: Hypothesis Tests for a Population Proportion presentation in Canvas.
3. View the Lesson 19 Multimedia Assignment in MyStatLab.
4. Complete the Lesson 19 Pretest in MyStatLab.
5. Complete the Lesson 19 Homework in MyStatLab.
6. Complete the Lesson 19 Posttest in MyStatLab.

Lesson 20
1. Read Section 10.3: Hypothesis Tests for a Population Mean and Section 10.4: Putting it All Together: Which Method Do I Use? in the Sullivan text.
2. View the Lesson 20: Hypothesis Tests for a Population Mean and Section 10.4: Putting it All Together: Which Method Do I Use? presentations in Canvas.
3. View the Lesson 20 Multimedia Assignment in MyStatLab.
5. Complete the Lesson 20 Homework in MyStatLab.
6. Complete the Lesson 20 Posttest in MyStatLab.
7. Review for Exam 4
8. Take Exam 4 in MyStatLab