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 & Materials**

A calculator and you will need 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 of 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 you can buy from the MBS bookstore, 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 proctored 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 includes objective (multiple choice), and fill-in-the-blank questions, all of which will be taken in MyStatLab. You can take your exams at the CIDL Testing Center at OU (free), Examity (online proctoring service for a fee) or a CIDL approved testing center in your area (may charge a fee).

**About the Grading**
Your course grade will be based on your scores on the twenty homework assignments, the twenty post-tests and the 4 exams.

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\begin{align*}
\text{Homework 1 pt each} & = 20 \text{ pts} \\
\text{Post-Tests 1 pt each} & = 20 \text{ pts} \\
\text{Exams 15 points each} & = 60 \text{ pts} \\
\text{Total} & = 100 \text{ points}
\end{align*}
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**Grading Scale**

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
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<td>B</td>
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<tr>
<td>C</td>
<td>70-79</td>
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<tr>
<td>D</td>
<td>60-69</td>
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<tr>
<td>F</td>
<td>Less than 60</td>
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**PROBLEMS OR QUESTIONS:**
If you have course content related questions, please email your instructor. If something isn’t working right in Canvas, email cidldev@ou.edu with a description of the problem and the course you are in.
ACADEMIC INTEGRITY CODE:
As a student taking a course at the University of Oklahoma you are expected to uphold the academic integrity code. Please visit http://integrity.ou.edu 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 Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website http://www.ou.edu/drc/home.html. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

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. To learn more or to report an incident, please contact the Sexual Misconduct Office at 405-325-2215 (8 to 5, M-F) or OU Advocates at 405-615-0013 (24/7). Also, 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 see http://www.ou.edu/eoo.
Lesson 1
1. Read Section 1.1 Introduction to the Practice of Statistics, in the Sullivan text.
2. View Lesson 1: Introduction to Statistics presentation in Canvas.
3. View the Lesson 1 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 1 Pre-Test in MyStatLab.
5. Complete the Lesson 1 Homework in MyStatLab.
6. Complete the Lesson 1 Post-Test 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 Lesson 2: Sampling Methods presentation in Canvas.
3. View the Lesson 2 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 2 Pre-Test in MyStatLab.
5. Complete the Lesson 2 Homework in MyStatLab.
6. Complete the Lesson 2 Post-Test 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 Lesson 3: Organizing and Summarizing Data presentation in Canvas.
3. View the Lesson 2 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 3 Pre-Test in MyStatLab.
5. Complete the Lesson 3 Homework in MyStatLab.
6. Complete the Lesson 3 Post-Test in MyStatLab.

Lesson 4
1. Read Section 3.1 Measures of Central Tendency in the Sullivan text.
2. View Lesson 4: Measures of Central Tendency presentation in Canvas.
3. View the Lesson 4 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 4 Pre-Test in MyStatLab.
5. Complete the Lesson 4 Homework in MyStatLab.
6. Complete the Lesson 4 Post-Test in MyStatLab.

Lesson 5
1. Read Section 3.2 Measures of Dispersion in the Sullivan text.
2. View Lesson 5: Measures of Dispersion presentation in Canvas.
3. View the Lesson 5 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 5 Pre-Test in MyStatLab.
5. Complete the Lesson 5 Homework in MyStatLab.
6. Complete the Lesson 5 Post-Test in MyStatLab.

Lesson 6
1. Read Section 3.4 Measures of Position and Outliers in the Sullivan text.
2. View Lesson 6: Measures of Position and Outliers presentation in Canvas.
3. View the Lesson 6 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 6 Pre-Test in MyStatLab.
5. Complete the Lesson 6 Homework in MyStatLab.
6. Complete the Lesson 6 Post-Test 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 Lesson 7: Describing the Relation between Two Variables presentation in Canvas.
3. View the Lesson 7 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 7 Pre-Test in MyStatLab.
5. Complete the Lesson 7 Homework in MyStatLab.
6. Complete the Lesson 7 Post-Test 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 Lesson 8: Least-Squares Regression and the Coefficient of Determination presentation in Canvas.
3. View the Lesson 8 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 8 Pre-Test in MyStatLab.
5. Complete the Lesson 8 Homework in MyStatLab.
6. Complete the Lesson 8 Post-Test 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.
3. View the Lesson 9 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 9 Pre-Test in MyStatLab.
5. Complete the Lesson 9 Homework in MyStatLab.
6. Complete the Lesson 9 Post-Test in MyStatLab.

Lesson 10
1. Read Section 6.1: Discrete Random Variables in the Sullivan text.
2. View Lesson 10: Discrete Random Variables presentation in Canvas.
3. View the Lesson 10 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 10 Pre-Test in MyStatLab.
5. Complete the Lesson 10 Homework in MyStatLab.
6. Complete the Lesson 10 Post-Test in MyStatLab.

Lesson 11
3. View the Lesson 11 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 11 Pre-Test in MyStatLab.
5. Complete the Lesson 11 Homework in MyStatLab.
6. Complete the Lesson 11 Post-Test 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 Lesson 12: Properties of the Normal Distribution presentation in Canvas.
3. View the Lesson 12 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 12 Pre-Test in MyStatLab.
5. Complete the Lesson 12 Homework in MyStatLab.
6. Complete the Lesson 12 Post-Test in MyStatLab.

Lesson 13
1. Read Section 7.2: Applications of the Normal Distribution in the Sullivan text.
3. View the Lesson 13 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 13 Pre-Test in MyStatLab.
5. Complete the Lesson 13 Homework in MyStatLab.
6. Complete the Lesson 13 Post-Test in MyStatLab.

Lesson 14
1. Read Section 8.1: Distribution of the Sample Mean in the Sullivan text.
2. View Lesson 14: Distribution of the Sample Mean presentation in Canvas.
3. View the Lesson 14 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 14 Pre-Test in MyStatLab.
5. Complete the Lesson 14 Homework in MyStatLab.
6. Complete the Lesson 14 Post-Test in MyStatLab.

Lesson 15
3. View the Lesson 15 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 15 Pre-Test in MyStatLab.
5. Complete the Lesson 15 Homework in MyStatLab.
6. Complete the Lesson 15 Post-Test in MyStatLab.

Lesson 16
2. View Lesson 16: Estimating a Population Mean presentation in Canvas.
3. View the Lesson 16 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 16 Pre-Test in MyStatLab.
5. Complete the Lesson 16 Homework in MyStatLab.
6. Complete the Lesson 16 Post-Test in MyStatLab.

Lesson 17
2. View Lesson 17: Putting it All Together: Which Procedure Do I Use? presentation in Canvas.
3. View the Lesson 17 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 17 Pre-Test in MyStatLab.
5. Complete the Lesson 17 Homework in MyStatLab.
6. Complete the Lesson 17 Post-Test 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 Lesson 18: The Language of Hypothesis Testing presentation in Canvas.
3. View the Lesson 18 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 18 Pre-Test in MyStatLab.
5. Complete the Lesson 18 Homework in MyStatLab.
6. Complete the Lesson 18 Post-Test in MyStatLab.
Lesson 19
1. Read Section 10.2: Hypothesis Tests for a Population Proportion in the Sullivan text.
3. View the Lesson 19 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 19 Pre-Test in MyStatLab.
5. Complete the Lesson 19 Homework in MyStatLab.
6. Complete the Lesson 19 Post-Test 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 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 Multi-Media Assignment in MyStatLab.
4. Complete the Lesson 20 Pre-Test in MyStatLab.
5. Complete the Lesson 20 Homework in MyStatLab.
6. Complete the Lesson 20 Post-Test in MyStatLab.
7. Review for Exam 4
8. Take Exam 4 in MyStatLab