



Course Syllabus

Course Title: Statistics

Term and Year:

Course and Section Number: MA 253

Time and Place: Asynchronous, Online

Number of Credit Hours: 3

Instructor: TBD

Office Location/Hours: TBD

Office Phone: TBD

Email: TBD

Course Description: Topics include: laws of probability, frequency distributions, sampling, expectation and variance, normal and sampling distributions, hypothesis testing, least squares, point, and interval estimates of parameters. Not open to engineering/science majors.

Prerequisites: MA 113 College Algebra

Learning Outcomes: Upon completion of this course, the student should be able to:

1. Identify types of data **(LO1)**
2. Create a frequency distribution and histogram **(LO2)**
3. Calculate mean and standard deviation **(LO3)**
4. Solve conditional probability and Bayes' theorem problems **(LO4)**
5. Set up and solve problems involving the binomial distribution and the normal distribution **(LO5)**
6. Solve problems involving the sampling distribution **(LO6)**
7. Perform hypothesis tests **(LO7)**
8. Utilize ANOVA (Analysis of Variance) **(LO8)**
9. Perform Chi Squared tests **(LO9)**
10. Use Linear Regression methods **(LO10)**

Required Text: This course utilizes OER (Open Educational Resources) materials at no cost to learners. All required reading is available in the online course room. The textbook can also be accessed for free at [Illowsky, B., & Dean, S. \(2013\). Introductory Statistics. OpenStax. https://openstax.org/books/introductory-statistics/pages/1-introduction.](https://openstax.org/books/introductory-statistics/pages/1-introduction)

References:

Open Assembly (2015). *Importance of Statistics* [Video]. YouTube.

<https://www.youtube.com/watch?v=WDtEteWuf5E>

Mathispower4u (2013). *Introduction to Statistics* [Video]. YouTube.

<https://www.youtube.com/watch?v=WDtEteWuf5E>

Mathispower4u (2014). *Sampling Methods* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=s6ApdTvgvOs>

The Organic Chemistry Tutor (2019). *Scales of Measurement* [Video]. YouTube.

<https://www.youtube.com/watch?v=LuBD49SFpWs>

Mathispower4u (2020). *Levels of Measurement* [Video]. YouTube.

https://www.youtube.com/watch?v=rRZ6_cnbmVQ

The Organic Chemistry Tutor (2019). *How to Make a Cumulative Relative Frequency* [Video].

YouTube. <https://www.youtube.com/watch?v=6hJGa4Zp62M>

Mathispower4u (2013). *Control Groups and the Placebo Effect* [Video]. YouTube.

<https://www.youtube.com/watch?v=R8VB6MqH7cQ>

MySecretMath Tutor (2011). *How to make a stem and leaf plot* [Video]. YouTube.

https://www.youtube.com/watch?app=desktop&v=_7m0Q_m2ppg

Mathispower4u (2013). *Introduction to Histograms* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=RWP2q4wyRds>

Dr Nic's Maths and Stats (2015). *Summary Statistics: Mean, Median, Mode* [Video]. YouTube.

<https://www.youtube.com/watch?v=rAN6DBctgJ0&t=205s>

Jeremy Blitz-Jones (2015). *Standard Deviation – Explained and Visualized* [Video]. YouTube.

<https://www.youtube.com/watch?v=MRqtXL2WX2M>

The Organic Chemistry Tutor (2019). *How To Calculate The Standard Deviation* [Video]. YouTube.

<https://www.youtube.com/watch?v=laTFpp-uzp0>

MySecretMath Tutor (2012). *How to make a relative frequency distribution* [Video]. YouTube.

<https://www.youtube.com/watch?v=7jUlt39tUBM>

The Organic Chemistry Tutor (2019). *Probability – Mutually Exclusive & Independent Events* [Video].

YouTube. <https://www.youtube.com/watch?app=desktop&v=94AmzeR9n2w>

Dr. Trefor Bazett (2017). *Probability – Intro to Conditional Probability* [Video].

YouTube. <https://www.youtube.com/watch?v=ibINrxJLvIM>

The Organic Chemistry Tutor (2019). *Conditional Probability with Venn Diagrams & Contingency*

Tables [Video]. YouTube. https://www.youtube.com/watch?v=sqDVrXq_eh0

- The Organic Chemistry Tutor (2019). *Bayes' Theorem of Probability with Tree Diagrams & Venn Diagrams* [Video]. YouTube <https://www.youtube.com/watch?app=desktop&v=OByl4RJxnKA>
- Dr. Trefor Bazett (2017). *Bayes' Theorem* [Video]. YouTube. <https://www.youtube.com/watch?v=XQoLVI31ZfQ>
- Mathispower4u (2020). *Probability Distribution Function for a Discrete Random Variable* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=8tzaV3RK53Y>
- Mathispower4u (2021). *Notation and Probabilities of a Discrete Random Variable Distribution Table* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=BJf9Awa1qYk>
- Mathispower4u (2019). *Expected Value* [Video]. YouTube. <https://www.youtube.com/watch?v=Df7gUTxzCaA>
- Mathispower4u (2014). *Ex: Expected Value* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=WOhUOrg8V-o>
- Khan Academy (2014). *Binomial Distribution* [Video]. YouTube. <https://www.youtube.com/watch?v=WWv0RUxDfbs>
- Mathispower4u (2021). *Determine Binomial Probabilities Using the TI-84: $P(x=k)$* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=4fgkGu3b-Q>
- Mathispower4u (2021). *Determine Binomial Probabilities Using the TI-84* [Video]. YouTube. <https://www.youtube.com/watch?v=FpNxHOqC6bU>
- The Organic Chemistry Tutor (2019). *Standard Normal Distribution Tables, Z Scores, Probability & Empirical Rule* [Video]. YouTube https://www.youtube.com/watch?v=CjF_yQ2N638
- Mathispower4u (2019). *Normal Distribution: Give an Area to Left/Right, Find the Area to the Right/Left* [Video]. YouTube. <https://www.youtube.com/watch?v=7trL3hYxTng>
- Mathispower4u (2019). *Normal Distribution: Use the Empirical Rule to Find Percentages from Graph* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=McAo1VwF9b4>
- Mathispower4u (2019). *Complete a Normal Distribution Graph Given Mean and Standard Deviation* [Video]. YouTube. <https://www.youtube.com/watch?v=vnoVvsgH5mA>
- Mathispower4u (2013). *Normal Distribution: Z-Score* [Video]. YouTube.

https://www.youtube.com/watch?v=4dryDMS_6U4

Mathispower4u (2013). *Normal Distribution: Find Probability Using With Z-scores Using the TI84* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=2XudeMAyWA>

Dr Nic's Maths and Stats (2013). *Understanding Confidence Intervals: Statistics Help* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=tFWsuO9f74o>

Dr Nic's Maths and Stats (2014). *Calculating the Confidence interval for a mean using a formula – statistics help* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=s4SRdaTycaw>

Dr Nic's Maths and Stats (2019). *Understanding and calculating confidence intervals for population proportions - statistics help* [Video]. YouTube.

<https://www.youtube.com/watch?v=OkR3PKt15uM>

Mathispower4u (2020). *Introduction to Confidence Intervals (Part 1)* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=mgvXYbmEK1U>

Mathispower4u (2020). *Introduction to Confidence Intervals (Part 2)* [Video]. YouTube.

<https://www.youtube.com/watch?v=XBLHLEf6PyE>

Mathispower4u (2020). *Mean Confidence Intervals Using Student's t-Distribution (TI-84 Only)*

[Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=1Un37cPmGQA>

Mathispower4u (2020). *Calculate a Confidence Interval for a Population Proportion on a TI-84*

[Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=qJ1ef4qBb9k>

Mathispower4u (2020). *Determine a Sample Size of a Population Proportion* [Video]. YouTube.

<https://www.youtube.com/watch?v=TWuGyU1ugMQ>

Dr Nic's Maths and Stats (2011). *Hypothesis testing: step-by-step, p-value, t-test for difference of two means - Statistics Help* [Video]. YouTube.

<https://www.youtube.com/watch?v=0zZYBALbZgg>

Mathispower4u (2020). *Lesson: Null and Alternative Hypotheses* [Video]. YouTube.

<https://www.youtube.com/watch?v=9iYSNJRtinE>

Mathispower4u (2020). *Determining if a Hypothesis Test is Left Tailed, Right Tailed, or Two Tailed*

[Video]. YouTube. <https://www.youtube.com/watch?v=an2DITaQFno>

Mathispower4u (2020). *Introduction to Hypothesis Testing Outcomes: Type I and Type II Errors*

[Video]. YouTube. https://www.youtube.com/watch?v=3_ntLwALEWo

Mathispower4u (2020). *Lesson: One Sample Hypothesis Testing* [Video]. YouTube.

https://www.youtube.com/watch?app=desktop&v=QcJj_zfWJ_c

Mathispower4u (2020). *One Sample Hypothesis Testing: Proportion (TI-84)* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=dRREF802K9Q>

Mathispower4u (2021). *One Sample Hypothesis Testing: Student t-Test (TI-84)* [Video]. YouTube.

https://www.youtube.com/watch?v=iGiY4eJx_hA

Mathispower4u (2020). *Introduction to the Chi-Square Distribution* [Video]. YouTube.

<https://www.youtube.com/watch?v=uAdD5pF27bE>

Mathispower4u (2020). *Chi-Square Distribution: Goodness of Fit Test (Absent Days)* [Video].

YouTube. <https://www.youtube.com/watch?app=desktop&v=d8Up8kRhrpk>

CrashCourse (2018). *Chi-Square Tests: Crash Course Statistics* [Video]. YouTube.

https://www.youtube.com/watch?app=desktop&v=7_cs1YlZoug

Mathispower4u (2020). *Chi-Square Distribution: Test of Independence* [Video]. YouTube.

<https://www.youtube.com/watch?v=Dr73jSmF0zg>

Mathispower4u (2020). *Chi-Square Distribution: Test of Homogeneity* [Video]. YouTube.

<https://www.youtube.com/watch?v=wiJewbRSwmw>

Mathispower4u (2020). *Chi-Square Distribution: Test of a Single Variance* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=Clz2DdojvBq>

Mathispower4u (2011). *Introduction to Regression Analysis* [Video]. YouTube.

<https://www.youtube.com/watch?app=desktop&v=TU2t1HDwVuA>

Mathispower4u (2009). *Linear Regression n the Graphing Calculator* [Video]. YouTube.

<https://www.youtube.com/watch?v=bgd4JNzqTsA>

Mathispower4u (2015). *Ex: Use a Line of Best Fit to Make Predictions* [Video]. YouTube.

<https://www.youtube.com/watch?v=MMuVRcVlbJ0>

Mathispower4u (2011). *Ex 1: Create a Scatter Plot and then Perform Linear Regression on the*

Calculator [Video]. YouTube. https://www.youtube.com/watch?v=AMx_SwQkn34

Math and Science (2017). *12 - Analysis of Variance (ANOVA) Overview in Statistics - Learn ANOVA and How it Works*. [Video]. YouTube. https://www.youtube.com/watch?v=CS_BKChyPuc

CrashCourse (2018). *ANOVA: Crash Course Statistics #33* [Video]. YouTube. <https://www.youtube.com/watch?v=oOuu8lBd-yo>

statslectures (2010). *One-Way ANOVA* [Video]. YouTube. <https://www.youtube.com/watch?app=desktop&v=51QZa7b0Ozk>

DATAtab (2022). *ANOVA (Analysis of variance) simply explained* [Video]. YouTube. <https://www.youtube.com/watch?v=0NwA9xxxtHw>

Other Materials: Suggested but not necessarily needed: Calculator - TI 84 equivalent

Course Requirements:

Attendance/Participation: All students are expected to log in to their courses regularly throughout the week to receive instruction, materials, and updates from the instructor. It is your responsibility to check in and submit your assignments, complete your discussion board postings, and finish quizzes and exams by the due dates.

If you do not participate in the course, you will be counted absent. Simply logging in is not enough; you must submit/complete an assignment, post to a discussion board, or other similar assignment tasks to avoid being counted absent. Instructors are required to submit attendance the Monday following each week of class.

This attendance is reported to the Financial Aid Department and may result in the loss of any financial aid refund you are expecting if you have not been participating in your courses. **In addition, you will be administratively dropped from the course if you are reported absent a total of three weeks.**

Completing the following actions will **not count** as present for this class:

- Logging into Moodle
- Reviewing Course Materials
- Any email or phone contact with the Instructor
- Submitting work early. One assignment must be submitted during each week to be counted present.

Grading/Evaluation:

The undergraduate course grading scale is as follows:

90-100% A	75-79% C+	60-64% D
85-89% B+	70-74% C	59% and below F
80-84% B	65-69% D+	

All course work will be completed on Moodle. Moodle will be used as the official gradebook. Your overall grade will be based on:

Assessments	Grade Distribution
Discussion Forums (8)	5%
Drag-and-Drop Key Terms Reviews (7)	5%
Stat Labs and Papers (6)	10%
Chapter Assignments (40)	20%
Chapter Quizzes (9)	30%
Final Exam (1)	30%

Late Work:

No late work will be accepted in normal cases. However, in exceptional situations and with proper official documentation (doctor's note, police report, etc.) an extension may be granted.

Other Policies:

Academic Misconduct:

The University prohibits all forms of academic misconduct. Academic misconduct refers to dishonesty in examinations (cheating), presenting the ideas or the writing of someone else as one's own (plagiarism) or knowingly furnishing false information to the University by forgery, alteration, or misuse of University documents, records, or identification. Academic dishonesty includes, but is not limited to, the following examples: permitting another student to plagiarize or cheat from one's own work, submitting an academic exercise (written work, printing, design, computer program) that has been prepared totally or in part by another, acquiring improper knowledge of the contents of an exam, using unauthorized material during an exam, submitting the same paper in two different courses without knowledge and consent of professors, or submitting a forged grade change slip or computer tampering. The faculty member has the authority to grant a failing grade in cases of academic misconduct as well as referring the case to Student Life.

Plagiarism:

You are expected to submit your own work and to identify any portion of work that has been borrowed from others in any form. An ignorant act of plagiarism on final versions and minor projects, such as attributing or citing inadequately, will be considered a failure to master an essential course skill and will result in an F for that assignment. A deliberate act of plagiarism, such as having someone else do your work, or submitting someone else's work as your own (e.g., from the Internet, fraternity file, etc., including homework and in-class exercises), will at least result in an F for that assignment and could result in an F for the course.

Artificial Intelligence (AI) is prohibited: All work submitted by students in this course must be generated by the student. Students may not have another person or entity contribute to an assignment for them, which includes using AI. Students may not incorporate any part of an AI-generated response in an assignment, use AI to formulate arguments, use AI to generate ideas for an assignment, or submit work to an AI platform for improvement. Using an AI tool to generate content may qualify as academic misconduct in this course.

OR

Artificial Intelligence (AI) is allowed: Students may use AI tools on instructor-identified assignments in this course. To adhere to our scholarly values, students must cite any AI-generated material that informed their work. Using an AI tool without proper attribution may qualify as academic misconduct in this course. It is the responsibility of the student to verify the accuracy, reliability, and ethical implications of AI-generated content.

Electronic Devices:

Use of electronic devices including smart watches and cell phones is prohibited during exams or quizzes unless directly allowed by the instructor.

Additional Information:

Student Resources:

Please visit the Student Resources tab in our course to find resources including technical support, tutoring, library resources, accommodations, accessibility, technology requirements, counseling services and many other resources.

Course Mapping:

Week One: Sampling and Data (LO1, 2)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> Chapter 1: Sampling and Data (Section 1.1 - Section 1.6) (39 pages) (LO1) (LO2) <p>Watch:</p> <ul style="list-style-type: none"> Importance of Statistics (2:44 Minutes) (LO1) Introduction to Statistics (7:35 Minutes) (LO1) Sampling Methods (6:00 Minutes) (LO1) Scales of Measurement (11:08 Minutes) (LO1) Levels of Measurement (2:54 Minutes) (LO1) How to Make a Cumulative Relative Frequency Table (5:03 Minutes) (LO1) (LO2) Control Groups and the Placebo Effect (7:32 Minutes) (LO1) 	<p>Participate:</p> <ul style="list-style-type: none"> Introduction Discussion Forum (Moodle) Discussion Forum 1: Create an infographic that summarizes the levels of measurement. Be sure to provide an example of each measurement. (LO1) <p>Assignments:</p> <ul style="list-style-type: none"> Drag-and-Drop Key Terms Review 1 (Moodle) (LO1) (LO2) Chapter 1 Homework Assignment (Moodle) (LO1) (LO2) Sampling Experiment (Moodle) (LO1) Moodle: Quiz 1 (LO1) (LO2)
Week Two: Descriptive Statistics (LO2, 3, 6)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> Chapter 2: Descriptive Statistics (Section 2.1 - 2.8) (53 pages) (LO2) (LO3) (LO6) <p>Watch:</p> <ul style="list-style-type: none"> How to make a stem and leaf plot (3:14 minutes) (LO2) Introduction to Histograms (5:56 minutes) (LO2) Summary Statistics: Mean, Median, Mode (5:13 minutes) (LO3) Standard Deviation - Explained and Visualized (3:42 minutes) (LO3) 	<p>Participate:</p> <ul style="list-style-type: none"> Discussion Forum 2: Create an infographic that explains how to calculate the mean, median, mode, variance, range, and standard deviation. Also include why each of the values are useful in statistics. (LO3) <p>Assignments:</p> <ul style="list-style-type: none"> Drag-and-Drop Key Terms Review 2 (Moodle) (LO2) (LO3) (LO6) Chapter 2 Homework Assignment (Moodle) (LO2) (LO3) (LO6)

<ul style="list-style-type: none"> • How To Calculate the Standard Deviation (7:13 minutes) (LO3) • How to make a relative frequency distribution (4:37 minutes) (LO6) 	<ul style="list-style-type: none"> • Descriptive Statistics Stats Lab (Moodle) (LO3) • Moodle: Quiz 2 (LO2) (LO3) (LO6) • Moodle: Exam 1 (LO1) (LO2) (LO3) (LO6)
Week Three: Probability Topics (LO4)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> • Chapter 4: Discrete Random Variables (Section 4.1 - Section 4.3) (16 pages) (LO5) <p>Watch:</p> <ul style="list-style-type: none"> • Probability Distribution Function for a Discrete Random Variable (4:52 Minutes) (LO5) • Notation and Probabilities of a Discrete Random Variable Distribution Table (3:34 Minutes) (LO5) • Expected Value (5:36 Minutes) (LO5) • Expected Value Example (3:39 Minutes) (LO5) • Binomial Distribution (11:51 Minutes) (LO5) • Determine Binomial Probabilities Using the TI-84: $P(x=k)$ (5:07 Minutes) (LO5) • Determine Binomial Probabilities Using the TI-84 (6:09 Minutes) (LO5) 	<p>Participate:</p> <ul style="list-style-type: none"> • Discussion Forum 4: Search the internet and find a source that helped you understand Binomial Distribution. Share this source with the class and explain how it was helpful. (LO5) <p>Assignments:</p> <ul style="list-style-type: none"> • Drag-and-Drop Key Terms Review 4 (Moodle) (LO5) • Chapter 4 Homework Assignment (Moodle) (LO5) • Paper 1 – Write a one-page paper that describes real-life applications of the binomial distribution. (Moodle) (LO5) • Moodle: Quiz 4 (LO5) <p>Moodle: Exam 2 (LO4) (LO5)</p>
Week Four: Discrete Random Variables (LO5)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> • Chapter 4: Discrete Random Variables (Section 4.1 - Section 4.3) (16 pages) (LO5) <p>Watch:</p> <ul style="list-style-type: none"> • Probability Distribution Function for a Discrete Random Variable (4:52 Minutes) (LO5) • Notation and Probabilities of a Discrete Random Variable Distribution Table (3:34 Minutes) (LO5) • Expected Value (5:36 Minutes) (LO5) • Expected Value Example (3:39 Minutes) (LO5) • Binomial Distribution (11:51 Minutes) (LO5) • Determine Binomial Probabilities Using the TI-84: $P(x=k)$ (5:07 Minutes) (LO5) 	<p>Participate:</p> <ul style="list-style-type: none"> • Discussion Forum 4: Search the internet and find a source that helped you understand Binomial Distribution. Share this source with the class and explain how it was helpful. (LO5) <p>Assignments:</p> <ul style="list-style-type: none"> • Drag-and-Drop Key Terms Review 4 (Moodle) (LO5) • Chapter 4 Homework Assignment (Moodle) (LO5) • Paper 1 – Write a one-page paper that describes real-life applications of the binomial distribution. (Moodle) (LO5) • Moodle: Quiz 4 (LO5) <p>Moodle: Exam 2 (LO4) (LO5)</p>

<ul style="list-style-type: none"> • Determine Binomial Probabilities Using the TI-84 (6:09 Minutes) (LO5) 	
Week Five: The Normal Distribution (LO5)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> • Chapter 6: The Normal Distribution (Section 6.1 - Section 6.2) (13 pages) (LO5) <p>Watch:</p> <ul style="list-style-type: none"> • Standard Normal Distribution Tables, Z Scores, Probability & Empirical Rule (51:02 Minutes) (LO5) • Normal Distribution: Give an Area to Left/Right, Find the Area to the Right/Left (1:46 Minutes) (LO5) • Normal Distribution: Use the Empirical Rule to Find Percentages from Graph (4:52 Minutes) (LO5) • Complete a Normal Distribution Graph Given Mean and Standard Deviation (3:09 Minutes) (LO5) • Normal Distribution: Z-Scores (3:09 Minutes) (LO5) <p>Normal Distribution: Find Probability Using With Z-scores Using the TI84 (5:14 Minutes) (LO5)</p>	<p>Participate:</p> <ul style="list-style-type: none"> • Discussion Forum 5: Create an infographic that summarized the key terms and formulas that are explained in Section 6.1 and Section 6.2. Be sure to add visual representations of the graphs! (LO5) <p>Assignments:</p> <ul style="list-style-type: none"> • Chapter 6 Homework Assignment (Moodle) (LO5) • Normal Distribution Lap Times Stats Lab (Moodle) (LO5) • Paper 1 – Write a one-page paper that describes real-life applications of the normal distribution. (Moodle) (LO5) • Moodle: Quiz 5 (LO5)
Week Six: Confidence Intervals (LO7)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> • Chapter 8: Confidence Intervals (Section 8.1 - Section 8.3) (24 pages) (LO7) • Chapter 9: Hypothesis Testing (Section 9.1 - Section 9.4) (8 pages) (LO7) <p>Watch:</p> <ul style="list-style-type: none"> • Understanding Confidence Intervals: Statistics Help (4:02 Minutes) (LO7) • Calculating the Confidence interval for a mean using a formula - statistics help (5:28 Minutes) (LO7) • Understanding and calculating confidence intervals for population proportions - statistics help (5:15 Minutes) (LO7) • Introduction to Confidence Intervals (Part 1) (4:59 Minutes) (LO7) • Introduction to Confidence Intervals (Part 2) (2:54 Minutes) (LO7) 	<p>Participate:</p> <ul style="list-style-type: none"> • Discussion Forum 6: Share a real-life application example when either confidence intervals or hypothesis testing can be used. (LO7) <p>Assignments:</p> <ul style="list-style-type: none"> • Drag-and-Drop Key Terms Review 5 (Moodle) (LO7) • Chapter 8 Homework Assignment (Moodle) (LO7) • Chapter 9 Homework Assignment (Moodle) (LO7) • Moodle: Quiz 6 (LO7) <p>Moodle: Exam 3 (LO5) (LO7)</p>

<ul style="list-style-type: none"> • Mean Confidence Intervals Using Student's t-Distribution (TI-84 Only) (2:54 Minutes) (LO7) • Calculate a Confidence Interval for a Population Proportion on a TI-84 (2:29 Minutes) (LO7) • Determine a Sample Size of a Population Proportion (5:25 Minutes) (LO7) • Hypothesis testing: step-by-step, p-value, t-test for difference of two means - Statistics Help (7:37 Minutes) (LO7) • Lesson: Null and Alternative Hypotheses (7:00 Minutes) (LO7) • Determining if a Hypothesis Test is Left Tailed, Right Tailed, or Two Tailed (2:08 Minutes) (LO7) • Introduction to Hypothesis Testing Outcomes: Type I and Type II Errors (5:21 Minutes) (LO7) • Introduction to Hypothesis Testing Outcomes: Type I and Type II Errors (5:21 Minutes) (LO7) • Lesson: One Sample Hypothesis Testing (10:37 Minutes) (LO7) • One Sample Hypothesis Testing: Proportion (TI-84) (5:18 Minutes) (LO7) • One Sample Hypothesis Testing: Student t-Test (TI-84) (4:25 Minutes) (LO7) 	
Week Seven: The Chi-Square Distribution and Linear Regression (LO9-10)	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> • Chapter 11: The Chi-Square Distribution (Section 11.1 - Section 11.5) (20 pages) (LO9) • Chapter 12: Linear Regression (Section 12.1 - Section 12.6) (25 pages) (LO10) <p>Watch:</p> <ul style="list-style-type: none"> • Introduction to the Chi-Square Distribution (4:09 Minutes) (LO9) • Chi-Square Distribution: Goodness of Fit Test (Absent Days) (5:58 Minutes) (LO9) • Chi-Square Tests: Crash Course Statistics (11:03 Minutes) (LO9) • Chi-Square Distribution: Test of Independence (7:44 Minutes) (LO9) • Chi-Square Distribution: Test of Homogeneity (5:59 Minutes) (LO9) 	<p>Participate:</p> <ul style="list-style-type: none"> • Discussion Forum 7: Create an infographic that summarizes facts about the Chi-Square Distribution. (LO9) <p>Assignments:</p> <ul style="list-style-type: none"> • Drag-and-Drop Key Terms Review 6 (Moodle) (LO9) (LO10) • Chapter 11 Homework Assignment (Moodle) (LO9) • Chapter 12 Homework Assignment (Moodle) (LO10) • Moodle: Quiz 7 (LO9) (LO10)

<ul style="list-style-type: none"> • Chi-Square Distribution: Test of a Single Variance (5:19 Minutes) (LO9) • Introduction to Regression Analysis (7:50 Minutes) (LO10) • Linear Regression on the Graphing Calculator (8:15 Minutes) (LO10) • Ex: Use a Line of Best Fit to Make Predictions (6:23 Minutes) (LO10) • Ex 1: Create a Scatter Plot and then Perform Linear Regression on the Calculator (6:48 Minutes) (LO10) 	
Week Eight: One-Way ANOVA	
Learning Activities and Materials	Assessments
<p>Read:</p> <ul style="list-style-type: none"> • Chapter 13: One-Way ANOVA (Section 13.1 - Section 13.4) (13 pages) (LO8) <p>Watch:</p> <ul style="list-style-type: none"> • 12 - Analysis of Variance (ANOVA) Overview in Statistics - Learn ANOVA and How it Works. (21:59 Minutes) (LO8) • ANOVA: Crash Course Statistics (13:16 Minutes) (LO8) • One-Way ANOVA (6:50 Minutes) (LO8) • ANOVA (Analysis of variance) simply explained (8:55 Minutes) (LO8) 	<p>Participate:</p> <ul style="list-style-type: none"> • Discussion Forum 8: Create an infographic that examples the purpose of a one-way ANOVA test. Include what the test uses and include the assumptions that must be fulfilled. (LO8) <p>Assignments:</p> <ul style="list-style-type: none"> • Drag-and-Drop Key Terms Review 7 (Moodle) (LO8) • Chapter 13 Homework Assignment (Moodle) (LO8) • Moodle: Quiz 8 (LO8) <p>Moodle: Exam 4 (LO8) (LO9) (LO10)</p>