



MATH120: Introduction to Statistics

Course Description

This course introduces the concepts of General Statistics including data fundamentals, data distribution, introductory data visualization, measures of central tendency, relative frequency distributions, measures of spread, probability theory and distributions, linear correlation, hypothesis testing, sampling, bias, single sample estimation, and least squares regression

Course Objectives

Upon satisfactory completion of this course, you will be able to:

1. Discuss the importance of the statistical method and how it relates to daily life
2. Demonstrate appropriate application of descriptive statistics
3. Demonstrate ability to critically think, execute, and deliver professional statistical analyses
4. Classify when and where to apply inferential statistics and interpret their output in context
5. Identify basic and conditional Probability
6. Interpret Probability Densities
7. Demonstrate working knowledge of Google Sheets and basic data structures
8. Explain the importance of a Normal Distribution
9. Identify and apply confidence intervals
10. Identify and perform a hypothesis test
11. Summarize correlation and linear regression principals

Course Materials

Required Material(s)

Students must purchase:

This course uses Knewton's Alta Platform. The fee for a Single Term Access will be charged to your student account.

All other required materials are provided as PDFs or links in the Course Materials folder. See the weekly schedule for more complete information on course readings.

Recommended (but not required) Additional Reading

Introductory Statistics (OpenStax [free])

Course Grading Explanations

Points	Grade
90-100	A
80-89	B
70-79	C
60-69	D
<59	F

A = Excellent performance. Work is truly exemplary and worthy of emulation by others. Student exceeds expectations and constructively contributes to the learning environment.

B = Above average performance. All assignments are complete and on time and exhibit a complete understanding and an ability to effectively apply concepts.

C = Average performance. Student accomplishes only the minimum requirements or does not complete all requirements. Oral and written communication is at an acceptable level for a college student.

D = Work is below acceptable level for a college student. Student shows only a very basic understanding of the material or does not meet all assignment requirements.

F = Work is not passing. Student's work is incomplete

Final Grade Calculation

Assignments

Value

Discussion Questions

25%

Weekly Assignments	20%
Midterm Exam	25%
Final Exam	30%
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TOTAL:	100%

Course Outline

<i>Week 1</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	Sampling and Data By the end of this week, you should be able to: <ul style="list-style-type: none"> • Discuss the importance of the statistical method and how it relates to daily life • Demonstrate working knowledge of Google Sheets and basic data structures 			
Video Resources	View <ul style="list-style-type: none"> • Video Lectures: <ul style="list-style-type: none"> ◦ Introduction to Excel/ Google Sheets • Additional Videos: <ul style="list-style-type: none"> ◦ <i>Nova: Prediction by the Numbers</i> 		2.0 Hours	
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> • <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Your Perspective of Statistics <ul style="list-style-type: none"> • Coming into this class, what were your preconceptions about Statistics in general? Have you changed your perspective at all in the week that we've been meeting? • Lastly, even if you don't have any experience with them. Do you think spreadsheet software would be popular with statisticians? Why or Why Not? 	See <i>Discussion Guidelines</i>	3.0 Hours	

Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 1.1.1 Sampling and Parameters 1.1.2 Statistical Study Design 1.2.1 Sampling Errors and Bias 	Wednesday 11:59PM	2.5 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 1.2.2 Variables and Measures of Data 2.1.1 Frequency Tables 	Sunday 11:59PM	3.0 Hours	
		TOTAL HOURS FOR THE WEEK:	10.5 Hours	

<i>Week 2</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	Descriptive Statistics By the end of this week, you should be able to: <ul style="list-style-type: none"> Demonstrate ability to critically think, execute, and deliver professional statistical analyses Demonstrate working knowledge of Google Sheets and basic data structures 			
Video Resources	View <ul style="list-style-type: none"> Video Lectures: <ul style="list-style-type: none"> Visualizations in Excel/ Google Sheets 		1.0 Hours	

Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> • <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: The role of Data Visualization in Statistics <ul style="list-style-type: none"> • It is often said that "a picture is worth 1,000 words", how do you think that relates to data? Do you feel that data is best kept on a spreadsheet or visualized? Why or why not? • What are some benefits of either approach? What about any dangers? 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> • 2.1.2 Histograms • 2.1.3 Histograms and Frequency Tables for Grouped Data • 2.2.3 Histograms and Frequency Tables with Technology - Excel • 2.3.2 Line and Bar Graphs 	Wednesday 11:59PM	3.25 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> • 2.4.2 Dot plots, Line and Bar graphs with Technology - Excel • 2.6.1 Using Measures of Central Tendency 	Sunday 11:59PM	3.0 Hours	
		TOTAL HOURS FOR THE WEEK:	10.25 Hours	

<i>Week 3</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
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Topics and Learning Objectives	Descriptive Statistics By the end of this week, you should be able to: <ul style="list-style-type: none"> Demonstrate appropriate application of descriptive statistics 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Generalizing Descriptive Statistics <ul style="list-style-type: none"> In everyday life we often speak in generalizations. Statistics is no different, except that we use "measures of the middle" to make those generalizations. <ul style="list-style-type: none"> What are three possible limitations (or even dangers) of using "the middle" (a.k.a. the average or mean) to describe an entire population. Do you think "the middle" is overly used to describe entire populations? Why or Why not 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 2.6.3 Skewness and Standard Deviation 2.6.4 Introduction to the Empirical Rule and Chebyshev's Theorem 2.7.2 Calculate measures of center and spread using Technology – Excel 	Wednesday 11:59PM	4.0 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i>	Sunday 11:59PM	2.5 Hours	

	<ul style="list-style-type: none"> 2.8.2 Variance, Standard Deviation and Z-scores with technology - Excel 			
		TOTAL HOURS FOR THE WEEK:	9.5 Hours	

Week 4	Details	Due	Demand Hours	Course Objective
Topics and Learning Objectives	Probability By the end of this week, you should be able to: <ul style="list-style-type: none"> Identify basic and conditional probability Demonstrate Working Knowledge of Google Sheets and basic data structures 			
Video Resources	View <ul style="list-style-type: none"> Video Lectures: <ul style="list-style-type: none"> Pivot Tables in Excel/ Google Sheets 		1.0 Hours	
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Your perspective on Probability <ul style="list-style-type: none"> Probability is perhaps the topic that most of us associate with statistics. It is also probably the most widely misunderstood topic in statistics. <ul style="list-style-type: none"> What does probability mean to you? Is there anywhere in your daily life where you use probability to make your 	See Discussion Guidelines	3.0 Hours	

	<p>decisions (even informally)? Give Examples.</p> <ul style="list-style-type: none"> ○ Beyond making a simple error, what is a potential danger of using probability to make a decision? 			
Knewton Assignments	<p>Complete:</p> <p><i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i></p> <ul style="list-style-type: none"> ● 3.1.1 Introduction to probability 	Wednesday 11:59PM	1.75 Hours	
Knewton Assignments	<p>Complete:</p> <p><i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i></p> <ul style="list-style-type: none"> ● 3.1.2 Understanding Probability ● 3.1.3 Basic probability rules 	Sunday 11:59PM	3.75 Hours	
		TOTAL HOURS FOR THE WEEK:	9.5 Hours	

<i>Week 5</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	<p>Probability</p> <p>By the end of this week, you should be able to:</p> <ul style="list-style-type: none"> ● Identify basic and conditional probability ● Demonstrate Working Knowledge of Google Sheets and basic data structures 			

Video Resources	<p>View</p> <p><i>Rewatch the lecture video below for information about Intermediate Pivot Tables.</i></p> <ul style="list-style-type: none"> ● Video Lectures: <ul style="list-style-type: none"> ○ Pivot Tables in Excel/ Google Sheets 		1.0 Hour	
Optional Resources	<p>Readings</p> <p>The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use.</p> <ul style="list-style-type: none"> ● <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	<p>Discuss</p> <p>DQ: The Intersection of Conditional Probability & Mutually Exclusive Events</p> <ul style="list-style-type: none"> ● Conditional probability takes a complex topic and compounds that complexity by introducing us to probabilities that depend on certain external events. <ul style="list-style-type: none"> ○ What are two examples of conditional probabilities and mutually exclusive events? ○ Is there an intersection between these two concepts? Why or Why not? 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	<p>Complete:</p> <p><i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i></p> <ul style="list-style-type: none"> ● 3.1.4 Types of probability ● 3.1.5 Complement and addition rules for probability ● 3.2.1 Mutually exclusive events ● 3.2.2 Conditional probabilities 	Wednesday 11:59PM	4.5 Hours	
Knewton Assignments	<p>Complete:</p> <p><i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i></p> <ul style="list-style-type: none"> ● 3.2.3 Multiplication rule and independent and mutually exclusive events 	Sunday 11:59PM	1.25 Hours	

		TOTAL HOURS FOR THE WEEK:	9.75 Hours	
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<i>Week 6</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	Discrete Random Variables By the end of this week, you should be able to: <ul style="list-style-type: none"> Interpret Probability Densities 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Data Distribution and its importance in analysis <ul style="list-style-type: none"> When we look at the distribution of a metric, we get a lot of useful information about the distinct probabilities of obtaining a specific value within that distribution. <ul style="list-style-type: none"> The Binomial distribution is one of the simplest distributions to understand and apply... do you agree? Why or why not? What is a real world example of something that might take on a binomial distribution? 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	Complete: Please complete the following assignments on the Knewton Platform. Links are provided in Moodle. <ul style="list-style-type: none"> 4.1.1 Discrete Probability 	Wednesday 11:59PM	3.0 Hours	

Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> • 4.2.1 Binomial Distribution • 4.3.2 Distribution with Technology - Excel 	Sunday 11:59PM	3.25 Hours	
		TOTAL HOURS FOR THE WEEK:	9.25 Hours	

<i>Week 7</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	Continuous Random Variables By the end of this week, you should be able to: <ul style="list-style-type: none"> • Identify basic and conditional Probability 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> • <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> • 5.1.1 Basic Continuous Density Functions • 5.2.2 Continuous Density and Exponential Distribution with Technology - Excel 	Wednesday 11:59PM	3.25 Hours	
Midterm Review	Begin: <i>Review the Course Materials for the Midterm Exam, due in Week 8</i>	Sunday 11:59PM	6.5 Hours	

		TOTAL HOURS FOR THE WEEK:	9.75 Hours	
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<i>Week 8</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	The Normal Distribution By the end of this week, you should be able to: <ul style="list-style-type: none"> • Explain the importance of a Normal Distribution 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> • <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Continuous Density functions in daily life <ul style="list-style-type: none"> • What is a continuous density function in your own words? • Do you think Continuous density function is important? Why or why not? • What are some real world applications where you think this concept would be important or useful to implement?" 		3.0 Hours	

Midterm Exam	Complete: <i>Please complete the Midterm Exam in Moodle</i>	Wednesday 11:59PM	2.5 Hours	
Knewton Assignment	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle</i> <ul style="list-style-type: none"> 6.1.1 Parameters of the Normal Distribution 6.1.2 Probability Using the Normal Distribution 	Sunday 11:59PM	4.75 Hours	
		TOTAL HOURS FOR THE WEEK:	10.25 Hours	

Week 9	Details	Due	Demand Hours	Course Objective
Topics and Learning Objectives	The Central Limit Theorem By the end of this week, you should be able to: <ul style="list-style-type: none"> Classify when and where to apply inferential statistics and interpret their output in context 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: The usefulness and applicability of the Normal Distribution in Statistics <ul style="list-style-type: none"> Assume that I know nothing about the normal distribution. Tell me what it is, and why it's important. Is it realistic to assume this represents real life? Why or why not? 	See Discussion Guidelines	3.0 Hours	

Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 6.2.2 Using the Normal Distribution with Technology- Excel 7.1.1 Central Limit Theorem 	Wednesday 11:59PM	3.75 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 7.2.1 Central Limit Theorem for Means 7.2.2 Using the Central Limit Theorem for Means to Find Probability 7.2.2–Excel Central Limit Theorem for Means with Technology 	Sunday 11:59PM	3.0 Hours	
		TOTAL HOURS FOR THE WEEK:	9.75 Hours	

<i>Week 10</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	The Central Limit Theorem By the end of this week, you should be able to: <ul style="list-style-type: none"> Classify when and where to apply inferential statistics and interpret their output in context 			

Optional Resources	<p>Readings</p> <p>The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use.</p> <ul style="list-style-type: none"> • <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	<p>Discuss</p> <p>DQ: Central Limit Theorem, a statistician's best friend</p> <p>In Statistics, where we are often having to sample a population and make estimates, the Central Limit Theorem is often a statistician's best friend</p> <ul style="list-style-type: none"> • Why do you think that is? • Now consider the Central Limit theorem in the context of distributions, how might it help you (the statistician) if you are sampling from a skewed distribution? Google "boot-strap sampling", how does this relate to Central Limit Theorem? 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	<p>Complete:</p> <p><i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i></p> <ul style="list-style-type: none"> • 7.2.3 Understanding effect of sample size for Means • 7.3.1 Central Limit Theorem for Proportions – Understand Sampling Distributions • 7.3.2 Using Central Limit Theorem for Proportions to find Probability • 7.3.2-Excel: Central Limit Theorem for Proportion 	Wednesday 11:59PM	3.5 Hours	
Knewton Assignments	<p>Complete:</p> <p><i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i></p> <ul style="list-style-type: none"> • 7.3.3 Understand effect of sample size for Proportion • 8.1.1 Confidence Intervals • 8.1.2 Understanding Confidence Intervals 	Sunday 11:59PM	3.25 Hours	
		TOTAL HOURS FOR THE WEEK:	9.75 Hours	

<i>Week 11</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
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Topics and Learning Objectives	Confidence Intervals By the end of this week, you should be able to: <ul style="list-style-type: none"> Identify and apply confidence intervals 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Estimating in ranges <ul style="list-style-type: none"> What is a confidence interval, and why might it be a valuable statistical tool? What impact does level of confidence have on the size of the interval? Does that seem intuitive to you or counter intuitive? Why? 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 8.2.1 Confidence Interval for Population Mean- Population Standard Deviation Known 	Wednesday 11:59PM	2.5 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 8.2.1-Excel: Confidence Interval for Population Mean- Population Standard Deviation Known with technology 8.2.2-Excel - Calculate a Confidence Interval for the Mean, population standard deviation known - Datasets 9.1.1 Terminology and Process of hypothesis testing 	Sunday 11:59PM	4.0 Hours	

		TOTAL HOURS FOR THE WEEK:	9.5 Hours	
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<i>Week 12</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	Hypothesis Testing with One Sample By the end of this week, you should be able to: <ul style="list-style-type: none"> Identify and perform a hypothesis test 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Drawing statistically based conclusions Often in a statistical study, the goal is to prove that "something" is different from what you would expect. <ul style="list-style-type: none"> Hypothesis testing is how we accomplish this differentiation How do you know if your data is "statistically significantly different" from some expected value? What Error Types (1 or 2) might you make and how are they related? 	See <i>Discussion Guidelines</i>	3.0 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 9.1.2 Basics of hypothesis testing 9.1.3 Understanding significance levels, critical values, and test statistics 9.1.4 Analyzing hypothesis tests in research 	Wednesday 11:59PM	3.75 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 9.2.1 Developing Hypothesis and understanding Possible Conclusions 9.2.2 Calculate the Test Statistic – One Mean Hypothesis Test 	Sunday 11:59PM	3.0 Hours	

	<ul style="list-style-type: none"> 9.3.2 Complete the steps of a one-mean hypothesis testing with Population SD known - Critical Value Approach 			
		TOTAL HOURS FOR THE WEEK:	9.75 Hours	

Week 13	Details	Due	Demand Hours	Course Objective
Topics and Learning Objectives	Linear Regression and Correlation By the end of this week, you should be able to: <ul style="list-style-type: none"> Summarize correlation and linear regression principals 			
Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Discussion	Discuss DQ: Correlation, not Causation! Correlation is an often misunderstood and misused statistical concept. <ul style="list-style-type: none"> What does Correlation capture, and what do you think are its limitations? It's always a good idea to plot correlations on a scatter plot, Do you agree? Why or Why not? How does the correlation of two variables affect your ability to predict one variable from the other using linear regression? 	See Discussion Guidelines	3.0 Hours	

Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 9.3.4-Excel: Hypothesis Testing with Technology - SD Known 12.1.1 Linear Regression Equations and Application 12.1.2 Uses of Linear Regression 	Wednesday 11:59PM	3.75 Hours	
Knewton Assignments	Complete: <i>Please complete the following assignments on the Knewton Platform. Links are provided in Moodle.</i> <ul style="list-style-type: none"> 12.1.4 Correlation and Causation 12.1.5 Coefficient of Determination 12.2.1-Excel: Performing Linear Regressions with Technology 	Sunday 11:59PM	3.75 Hours	
		TOTAL HOURS FOR THE WEEK:	9.75 Hours	

<i>Week 14</i>	<i>Details</i>	<i>Due</i>	<i>Demand Hours</i>	<i>Course Objective</i>
Topics and Learning Objectives	Statistics By the end of this week, you should be able to: <ul style="list-style-type: none"> Discuss the importance of the statistical method and how it relates to daily life Demonstrate appropriate application of descriptive statistics Demonstrate ability to critically think, execute, and deliver professional statistical analyses Classify when and where to apply inferential statistics and interpret their output in context Identify basic and conditional Probability Interpret Probability Densities Demonstrate working knowledge with Google Sheets and basic data structures Explain the importance of a Normal Distribution Identify and apply confidence intervals Identify and perform a hypothesis test Summarize correlation and linear regression principals 			

Optional Resources	Readings The OpenStax text is meant to be a supporting document for those who desire to explore statistical concepts in greater depth, those who need additional conceptual guidance, and most importantly those who learn best via reading material. The text is a great resource for all of the above and fortunately is free for all to use. <ul style="list-style-type: none"> • <i>Introductory Statistics</i>- Available for Free on OpenStax 			
Final Exam Review	Begin: <i>Review the course materials for the Final Exam, due at the end of Week 14.</i>	Wednesday 11:59PM	6.5 Hours	
Final Exam	Complete: <i>Please complete the Final Exam in Moodle</i>	Sunday 11:59PM	3.0 Hours	
Course Evaluation	Evaluate <ul style="list-style-type: none"> • Please follow the prompts when you log in to Moodle to fill out the anonymous Course Evaluation survey. • NOTE: The results of these surveys are compiled into one summary report that goes to the Department Chair after the final grades are turned in. They are completely anonymous, so feel free to be honest. Jessup Online uses the reports to guide our decision-making for future courses. • After you have completed the survey, please follow the directions in the Course Evaluation Assignment to let your instructor know that you have completed this course requirement. 	Sunday 11:59PM		
		TOTAL HOURS FOR THE WEEK:	9.5 Hours	