

Syllabus

This course introduces fundamental concepts of elementary statistics, including descriptive statistics, methods of counting, probability distributions, approximations, estimation, and hypothesis testing. Learners use these concepts to apply and interpret statistical results. Learners may earn credit for either MAT2001 or MAT2002, but not both.

Course Competencies

(Read Only)

To successfully complete this course, you will be expected to:

- 1 Interpret a data set's central tendency and variability using descriptive statistical procedures.
- 2 Evaluate the adequacy of data collection methods.
- 3 Derive logical conclusions from inferential statistical procedures.
- 4 Solve problems in your personal and professional life by applying statistical procedures.
- 5 Evaluate statistical arguments.

Course Prerequisites

There are no prerequisites for this course.

Syllabus >> Course Materials

Required

The materials listed below are required to complete the learning activities in this course.

Integrated Materials

Many of your required books are available via the VitalSource Bookshelf link in the courseroom, located in your Course Tools. Registered learners in a Resource Kit program can access these materials using the courseroom link on the Friday before the course start date. Some materials are available only in hard-copy format or by using an access code. For these materials, you will receive an email with further instructions for access. Visit the [Course Materials](#) page on Campus for more information.

Book

Bennett, J. O., Briggs, W. L., & Triola, M. F. (2018). *Statistical reasoning for everyday life with MyLab for Statistics online access* (5th ed.). Boston, MA: Pearson. ISBN: 9780135368541.

Library

The following required readings are provided in the Capella University Library or linked directly in this course. To find specific readings by journal or book title, use [Journal and Book Locator](#). Refer to the [Journal and Book Locator library guide](#) to learn how to use this tool.

- Utts, J. M., & Heckard, R. F. (2004). [Sampling: Surveys and how to ask questions](#). In *Mind on statistics* (2nd ed.) (pp. 89–129). Stamford, CT: Cengage.

External Resource

Please note that URLs change frequently. While the URLs were current when this course was designed, some may no longer be valid. If you cannot access a specific link, contact your instructor for an alternative URL. Permissions for the following links have been either granted or deemed appropriate for educational use at the time of course publication.

- Gates, A. (2014). [Bar graphs in Excel with pivot tables \[Video\]](#). Retrieved from https://www.youtube.com/watch?v=W6_mslr2RxM&feature=youtu.be

- Gates, A. (2014). [Confidence intervals for means \[Video\]](http://www.mathandstatistics.com/learn-stats/confidence-intervals/confidence-intervals-for-means). Retrieved from <http://www.mathandstatistics.com/learn-stats/confidence-intervals/confidence-intervals-for-means>
- Gates, A. (2014). [Confidence intervals for proportions \[Video\]](http://www.mathandstatistics.com/learn-stats/confidence-intervals/confidence-intervals-for-proportions). Retrieved from <http://www.mathandstatistics.com/learn-stats/confidence-intervals/confidence-intervals-for-proportions>
- Gates, A. (2014). [Correlations, scatterplots, trendlines \(regression equations\) and prediction using Excel \[Video\]](https://www.youtube.com/watch?v=P6LwhM_pDuA). Retrieved from https://www.youtube.com/watch?v=P6LwhM_pDuA
- Gates, A. (2014). [Data analysis from Google Forms: Correlation \[Video\]](https://www.youtube.com/watch?v=UDRtF1Evq8I). Retrieved from <https://www.youtube.com/watch?v=UDRtF1Evq8I>
- Gates, A. (2014). [Data analysis from Google Forms: Paired t-tests \[Video\]](https://www.youtube.com/watch?v=SWqN27kNCUQ). Retrieved from <https://www.youtube.com/watch?v=SWqN27kNCUQ>
- Gates, A. (2014). [Data analysis from Google Forms: T-tests \[Video\]](https://www.youtube.com/watch?v=4Fo7wjfO1jE). Retrieved from <https://www.youtube.com/watch?v=4Fo7wjfO1jE>
- Gates, A. (2014). [Data types and levels of measurement \[Video\]](https://www.youtube.com/watch?v=dLzLWJzcYyg). Retrieved from <https://www.youtube.com/watch?v=dLzLWJzcYyg>
- Gates, A. (2014). [Excel confidence intervals \[Video\]](http://www.mathandstatistics.com/new-page-1/learn-excel-for-stats/excel-confidence-intervals). Retrieved from <http://www.mathandstatistics.com/new-page-1/learn-excel-for-stats/excel-confidence-intervals>
- Gates, A. (2014). [Finding z critical values](http://www.mathandstatistics.com/learn-stats/finding-z-critical-values). Retrieved from <http://www.mathandstatistics.com/learn-stats/finding-z-critical-values>
- Gates, A. (2014). [Frequency tables and histograms \[Video\]](https://www.youtube.com/watch?v=2jq1Z_rDikU). Retrieved from https://www.youtube.com/watch?v=2jq1Z_rDikU
- Gates, A. (2014). [Measures of central tendency \[Video\]](https://www.youtube.com/watch?v=W-O5slGT5sw). Retrieved from <https://www.youtube.com/watch?v=W-O5slGT5sw>
- Gates, A. (2014). [Measures of variation \[Video\]](https://www.youtube.com/watch?v=ssF5laYrdY0). Retrieved from <https://www.youtube.com/watch?v=ssF5laYrdY0>
- Gates, A. (2014). [Normal probabilities and the empirical rule \[Video\]](https://www.youtube.com/watch?v=ykw1Kd1lh44&list=UU-Kt_pM9sQ8BMi9O7O7oJQg). Retrieved from https://www.youtube.com/watch?v=ykw1Kd1lh44&list=UU-Kt_pM9sQ8BMi9O7O7oJQg
- Gates, A. (2014). [Normal probabilities using the z table and z scores \[Video\]](https://www.youtube.com/watch?v=j4E665t-p-E&list=UU-Kt_pM9sQ8BMi9O7O7oJQg). Retrieved from https://www.youtube.com/watch?v=j4E665t-p-E&list=UU-Kt_pM9sQ8BMi9O7O7oJQg
- Gates, A. (2014). [Pie charts in Excel with pivot tables \[Video\]](https://www.youtube.com/watch?v=IRuYY3b5bRI&feature=youtu.be). Retrieved from <https://www.youtube.com/watch?v=IRuYY3b5bRI&feature=youtu.be>
- Gates, A. (2014). [Populations and samples \[Video\]](https://youtu.be/iQulloQyDso). Retrieved from <https://youtu.be/iQulloQyDso>
- Gates, A. (2014). [Sample size for means using margin of error and confidence interval](http://www.mathandstatistics.com/learn-stats/finding-the-minimum-sample-size/sample-size-for-confidence-interval-mean-and-error-margin). Retrieved from <http://www.mathandstatistics.com/learn-stats/finding-the-minimum-sample-size/sample-size-for-confidence-interval-mean-and-error-margin>
- Gates, A. (2014). [Sampling methods and research design \[Video\]](https://www.youtube.com/watch?v=09LQ-bjJOHI). Retrieved from <https://www.youtube.com/watch?v=09LQ-bjJOHI>
- Gates, A. (2014). [Shapes of distributions \[Video\]](https://www.youtube.com/watch?v=iul-GarbN5M&list=UU-Kt_pM9sQ8BMi9O7O7oJQg). Retrieved from https://www.youtube.com/watch?v=iul-GarbN5M&list=UU-Kt_pM9sQ8BMi9O7O7oJQg
- Gates, A. (2014). [Using contingency tables for probability and dependence](http://www.mathandstatistics.com/learn-stats/probability-and-percentage/using-contingency-tables-for-probability-and-dependence). Retrieved from <http://www.mathandstatistics.com/learn-stats/probability-and-percentage/using-contingency-tables-for-probability-and-dependence>
- Gates, A. (2014). [Using Excel for Z-test hypothesis one tail \[Video\]](https://www.youtube.com/watch?v=SMKkiKMs4LU). Retrieved from <https://www.youtube.com/watch?v=SMKkiKMs4LU>
- Utts, J. M., & Heckard, R. F. (2004). [Sampling: Surveys and how to ask questions. In Mind on statistics \(2nd ed.\) \(pp. 89–129\)](#). Stamford, CT: Cengage.

Suggested

The following materials are recommended to provide you with a better understanding of the topics in this course. These materials are not required to complete the course, but they are aligned to course activities and assessments and are highly recommended for your use.

Optional

The following optional materials are offered to provide you with a better understanding of the topics in this course. These materials are not required to complete the course.

External Resource

Please note that URLs change frequently. While the URLs were current when this course was designed, some may no longer be valid. If you cannot access a specific link, contact your instructor for an alternative URL. Permissions for the following links have been either granted or deemed appropriate for educational use at the time of course publication.

- AnalystSoft. (n.d.) [StatPlus: mac LE](https://www.analystsoft.com/en/products/statplasmacle/). Retrieved from <https://www.analystsoft.com/en/products/statplasmacle/>

Projects

Project >> Statistical Analysis

Project Overview

The Statistical Analysis Project will give you a chance to develop a hypothetical data collection survey on a topic of interest to you, whether it be personal or professional. You will use technology to generate and analyze your data set to develop answers to your survey questions. Since you will be using technology to randomly generate answers to your survey questions, you will have to *listen* to the data to generate your conclusions and interpretations. Once you have your data set, you will be able to interpret the results using the statistical tools we are learning in the course. By the time you finish this project, you should have gained confidence and knowledge about the process of data collection, analysis, and interpretation.

Note: One can spend many hours examining and analyzing a data set looking for items that may or may not be useful. The goal of this project is to complete a realistic survey data collection and analysis project using the tools about which you are learning.

The format for your final analysis should include the following sections, in this order:

1. **Title Page.**
2. **Executive Summary** (2–3 pages): This should be a summary of the findings and conclusions of the study you developed and conducted.
3. **Reflection Statement** (1–2 pages): This needs to include what you learned both in the course and in this project. Review the competencies of this course, which are located in the syllabus, as well as the criteria of this project to make sure you are focusing on the correct concepts for your reflections.
4. **Appendix** (This includes your supporting data):
 1. Introduction.
 2. Data Collection Plan.
 3. Descriptive Results.
 4. Inferential Statistics.
 5. Table of data from the Survey Data Generator.

Unit 1 >> An Introduction to Statistical Reasoning

Introduction



Imagine you work for a rideshare company. You pick up two riders who turn out to be campaign consultants in the middle of a heated discussion about something called "sampling error" in voter polling.

Leading up the 2016 U.S. presidential election, expert political and statistical groups—including the Princeton Election Consortium, the FiveThirtyEight group, the *New York Times*, and many others—analyzed polling data indicating that Hillary Clinton would defeat challenger Donald Trump. They were all wrong. What does "sampling error" have to do with this problem?

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Course Project:** Submit the first component of your course project, the Initial Survey Design assignment.

Course Resources

[Unit 1 Intro Image](#) | Transcript

Learning Activities

u01s1 - What You Need to Do

Assignment Overview

This week features an introduction to the study of statistics. You will learn about sampling methods and different forms of statistical analysis, and you will practice the skills introduced this week using MyLab Statistics.

Project Preparation

You will begin working on the course project this week by completing the initial survey design process based on a topic of your choice. You will complete five assignments leading up to the final course project due in Week 10.

u01s2 - What You Need to Know

The predictions in the introduction to Week 1 were based on data collected via statistical sampling. Various polling and sampling techniques were employed and samples of data were collected and analyzed. Sample sizes were very large, which reduces the estimated error when projecting sample estimates to population results.

View an equation that relates sample error to sample size:

- [Unit 1 Equation 1](#).

In general, as the sample size increases the error should decrease. Therefore, from this analysis, sample estimates were extrapolated to population estimates, and appropriate bounds of error were used. However, as we are learning in Week 1, projecting estimates from sample to population is valid if the sample is representative of the population. This is where the application of statistics failed. The samples did not accurately represent the population. As a result, statisticians pointed to the golden rule of statistical analysis: *garbage in, garbage out*. If the data you are collecting is not valid, the analysis is not valid.

To learn more about sampling, read Chapter 1, "Speaking of Statistics," pages 1–43 in your *Statistical Reasoning for Everyday Life* textbook.

- This chapter introduces statistics, sampling, and types of statistical studies.
- This chapter also provides real-life examples of how statistics can be used.

To learn more about working with populations and samples, access and review the videos below by Dr. Ami Gates. These videos will support your completion of Week 1 assignments, including the MyLab Statistics problem set and the Initial Survey Design course project assignment.

- [Populations and Samples \[Video\]](#).
- [Sampling Methods and Research Design \[Video\]](#).

u01s2 - Learning Components

- Examine statistics, sampling, types of statistical studies, and real-life applications for statistics.

u01a1 - Problem Set

Through the readings assigned this week, you should have an understanding of what statistics is. In addition, you should have an idea of how to use statistics. In this problem set, you will have a chance to practice the skills introduced to you in the first chapter of your text.

The problem sets each week will be done through MyLab Statistics, which was introduced to you in this week's **What You Need to Know**.

To initially access publisher online lab content supplemental to your textbook, refer to the [MyLab Statistics Access Guide \[DOCX\]](#). If you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you are set up to access MyLab Statistics, follow these steps to access the problem sets.

1. Go to MyLab Statistics and click **HOMEWORK** located on the leftmost side of the page.
2. When you get to the list of homework assignments for the course, click **Unit 1 Problem Set**. This will bring you to the **Homework Overview** page.
3. Complete problems 1–13. Click a problem number to begin.

Note the following when working on your homework assignments:

- The type of problems you will get include multiple choice, fill in the blank, true or false, and problem completion.
- Some of the problems have animation and videos attached to them, which will help you figure out how to complete that specific type of statistical problem. It is recommended that you use these tools.
- You are able to move from one problem to another as you wish. This can be done by using the navigation tools right above the actual problem.
- Once you answer a problem correctly, you will see a small green check mark next to the number of the problem.
- You are able to save your work at any time by clicking the **Save** button at the bottom of the problem box.

- You are able to access and complete each problem as many times as you would like to practice and improve your overall grade for the problem set.

Once you have completed your work to your personal satisfaction for this week, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the end of the week or as directed by your instructor.

u01v1 - Interactive Learning Module: Identify Variables and the Sample and Population in a Survey

Throughout the course, you will complete six assignments that culminate in the Statistical Analysis project, where you will develop a hypothetical data collection survey on a topic of interest to you. The first assignment in the series, Initial Survey Design, is due this week:

- **Week 1: Initial Survey Design.**
- Week 3: Designing a Focused Survey.
- Week 5: Survey Results.
- Week 7: Analyzing the Data Set Using Descriptive Statistics.
- Week 9: Analyzing the Data Set Using Inferential Statistics.
- Week 10: Statistical Analysis (final project).

Prepare for the assignment by completing the following:

1. Review the assignment instructions and scoring guide.
2. Watch your instructor walk through some important elements of the assignment:
 - [Week 1 Project Video](#).

Then, complete the following practice activity.

Course Resources

Week 1 Project Video

[Identify Variables and the Sample and Population in a Survey](#)

u01v1 - Learning Components

- Examine statistics, sampling, types of statistical studies, and real-life applications for statistics.
- Identify variables and the sample and population in a survey.

u01a2 - Project: Initial Survey Design

This is the first component of your course project.

Before rushing out to collect data, it is important to clearly define what you are trying to accomplish and what you are trying to answer from your study. This assignment provides an opportunity for you to demonstrate your ability to define your goals and begin to formulate a data collection strategy to meet those goals.

Using the [Initial Survey Design Template \[DOC\]](#), identify a topic of interest in your personal or professional life. Explain your reasons for selecting the topic and your thoughts about the study design. As you fill out the template, keep in mind that surveys are usually done to answer

some sort of question. This topic could be something based on your professional activities or your personal interests. In other words, you get to make the subject of the statistical analysis your own.

Make sure you have watched the [Week 1 Project Video](#). Your instructor walks you through the course project and the template for this assignment:

Address the following in the template:

1. Describe the topic of your survey.
2. Explain why the topic is important. (How might the results of the study be used in your personal or professional life?)
3. Identify and describe the potential variables to be included in data gathering.
4. Define the population to be studied.
5. Explain why this is the best population for your study.

When you have completed this assignment, submit it to the assignment area. Before submitting it, refer to the Project: Initial Survey Design Scoring Guide to ensure that it meets the grading criteria.

Unit 2 >> All About Data

Introduction



Your boss at the rideshare company asks you to work on a project to identify the most common zip code (or codes) that request ride sharing services. You perform some basic analysis and determine that the last 10 rides you picked up originated in the following zip codes: 20001, 20006, 20004, 20002, 20001, 20001, 20003, 20009, 20001, 20009.

To perform some initial analysis, you decide to compute various measures of central tendency to better summarize the data. But which measures of central tendency are appropriate given the data: mean, median, mode? You realize that to determine the most appropriate analysis technique, you need to first identify the type of data collected.

This week you will:

- **Discussion:** Discuss sampling methods and survey questions related to your course project topic.
- **Assignment:** Complete your MyLab Statistics homework.
- **Planning:** Read about the Designing a Focused Survey assignment due in Week 3 to be sure you understand the assignment requirements.

Course Resources

[Unit 2 Intro Image](#) | Transcript

Learning Activities

u02s1 - What You Need to Do

Discussion Overview

In this week's discussion, you will build on the first course project assignment you submitted in Week 1. You will explore sampling methods and survey design that are appropriate for your topic.

Assignment Overview

This week's homework will give you the opportunity to assess your understanding of data types and levels of measurement.

u02s2 - What You Need to Know

So what type of data are zip codes—quantitative or categorical? The data is seemingly numeric, but are these quantities? The answer is NO.

Zip codes are a great example of categorical data. Even though this data is numeric in nature, the numbers do not refer to quantities. Thus, the mean is not a valid measure given this data type! Furthermore, since zip codes do not have any implied order, the median is not a valid measure of central tendency either. In fact, of these three measures, the mode is the only valid one given our data type, and it is also the most fitting as it directly answers the question asked, "which zip code is most common"?

To better understand why, let's compute these values (even the invalid ones).

The mean is the arithmetic average:

$$(20001 + 20006 + 20004 + 20002 + 20001 + 20001 + 20003 + 20009 + 20001 + 20009)/10 = 20003.7$$

Note that summing zip codes and dividing by the number of zip codes is invalid in this situation since zip codes are not quantities!

Similarly, since zip codes have no intrinsic ordering, the median is not valid and does not answer the question at hand.

The mode is the value that occurs most often. In our collected data, code 20001 occurs four times; 20009 occurs twice; and 20006, 20004, 20002, and 20003 each occur once. Thus, the mode is 20001.

Thus, given this simple analysis, you estimate that it may be best to search for rides in zip code 20001.

To learn more about these measures, read Chapter 2, "Measurement in Statistics," pages 44–75 in your *Statistical Reasoning for Everyday Life* textbook.

- In this chapter, pay particular attention to data types and levels of measurement, dealing with errors, and using percentages in statistics.
- This chapter also provides several examples of how this information can be used.

To learn more about the types of data and levels of measurement, access and review the video below by Dr. Ami Gates. This video will support your completion of this week's MyLab Statistics problem set and next week's Designing a Focused Survey course project assignment.

- [Data types and levels of measurement \[Video\]](#).

u02s2 - Learning Components

- Examine data types and levels of measurement, dealing with errors, and using percentages in statistics.

u02a1 - Problem Set

Now that you have had a chance to learn about data types and levels of measurement, it is time to apply what you have learned to this week's Problem Set.

When ready, access MyLab Statistics, and go to **Unit 2 Problem Set** in the **HOMEWORK** section. Complete problems 1–10.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

A few items to note when working on your homework assignments:

- The type of problems you will get include multiple choice, fill in the blank, true or false, and problem completion.
- Some of the problems have animation and videos attached to them, which will help you figure out how to complete that specific type of statistical problem. It is recommended that you use these tools.
- You are able to move from one problem to another as you wish. This can be done by using the navigation tools right above the actual problem.
- Once you answer a problem correctly, you will see a small green check mark next to the number of the problem.
- You are able to save your work at any time by clicking the **Save** button at the bottom of the problem box.
- You are able to access and complete each problem as many times as you would like to practice and improve your overall grade for the problem set.

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u02d1 - Project: Statistical Analysis Topics

In the previous week, you submitted the topic for your course project. The next step is to consider and describe ways to administer a survey that will gather data related to your course project. For this discussion, answer the following questions:

- What type of sampling methods would you use?
- In developing your survey, you will create six questions. What are some of the specific questions your survey should contain?
- What difficulties do you anticipate in designing a study around the topics offered?

Use the "Eight Guidelines for Critically Evaluating a Statistical Study" presented on page 30 of Chapter 1 in your text to predict issues that might arise. This information will also be discussed in Week 3, where you are given some specific guidelines for these questions.

Before posting, review the Discussion Participation Scoring Guide to make sure you have met the expectations of this discussion.

Response Guidelines

Read the posts of your peers and respond to two. How do your peers' opinions and results on the study contrast with your own? Do you agree or disagree with the analysis of your peers? Explain.

Course Resources

Undergraduate Discussion Participation Scoring Guide

Statistical Reasoning for Everyday Life With MyLab for Statistics Online Access

u02d1 - Learning Components

- Discuss ways to administer a survey that will gather data related to a research project.

u02v1 - Interactive Learning Module: Identify the Sampling Method and Types of Variables and Responses

Throughout the course, you will complete six assignments that culminate in the Statistical Analysis project, where you will develop a hypothetical data collection survey on a topic of interest to you. The second assignment in the course project series, Designing a Focused Survey, is due next week:

- Week 1: Initial Survey Design.
- **Week 3: Designing a Focused Survey.**
- Week 5: Survey Results.
- Week 7: Analyzing the Data Set Using Descriptive Statistics.
- Week 9: Analyzing the Data Set Using Inferential Statistics.
- Week 10: Statistical Analysis (final project).

Prepare for the assignment by completing the following:

- Review the assignment instructions and scoring guide.
- Watch your instructor walk through some important elements of the assignment:
 - [Week 3 Project Video](#).

Then, complete the following practice activity.

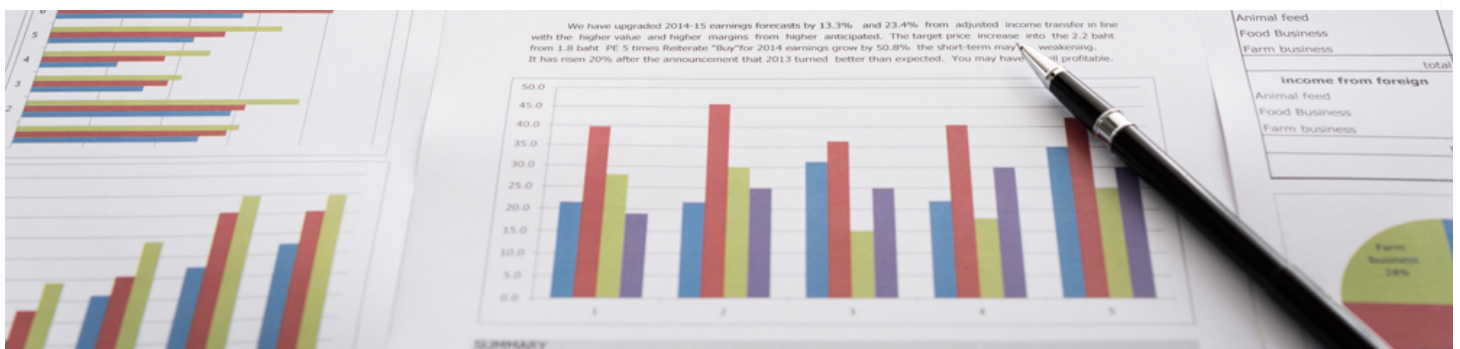
Course Resources

Week 3 Project Video

[Identify the Sampling Method and Types of Variables and Responses](#)

u02v1 - Learning Components

- Identify the sampling method and types of variables/responses.

Unit 3 >> Picturing Data**Introduction**

Some of the managers at your rideshare company were quite impressed with your analysis of common zip codes, and you have been offered a promotion to an analyst position.

Assume you wish to practice your newly found interest in data analysis on home sales data. You think this is a good application, as you are considering purchasing a home, but you are concerned about the stability of home prices. You compile information on local home sale prices over the last 10 years and decide to create a chart that shows sales trends. How would you ensure that your chart provides a clear and accurate picture of these trends?

This week you will:

- **Discussion:** Share and provide and receive feedback on your course project survey questions.
- **Assignment:** Complete your MyLab Statistics homework.
- **Course Project:** Submit the second component of your course project, the Designing a Focused Survey assignment.

Course Resources

[Unit 3 Intro Image](#) | Transcript

Learning Activities

u03s1 - What You Need to Do

Discussion Overview

In this week's discussion, you will post your survey questions for your course project and receive feedback on your questions from your peers. You will also provide feedback on the survey questions of your classmates. This will prepare for this week's project assignment.

Assignment Overview

This week's homework will give you the opportunity to practice the skills you are learning, including how to visually display and interpret data.

Project Preparation

This week, you will also submit the second component of your course project, the Designing a Focused Survey assignment.

u03s2 - What You Need to Know

To begin your analysis of local home sales, you collect home sales price data over the past 10 years for the neighborhoods of interest. The software you are using creates a chart.

View the chart:

- [Unit 3 Chart 1.](#)

Upon initial inspection, you see that the home prices seem fairly stagnant and stable over the ten years. However, you realize that, although "numbers never lie," charts can be deceiving. You observe that the variability of the home prices might be at a different scale than the y-axis in the chart. Thus, the variability seems negligible, so you decide to re-scale the y-axis and perform a deeper investigation.

View the resulting chart:

- [Unit 3 Chart 2](#).

The variability of sales prices from year to year is now observable. Home prices seem to be trending downward; however, the change from year to year seems to vary from \$1k to \$2k. This is less than 1% of the sales prices, and so you conclude that the trend of sales prices is downward, but only slightly.

To learn more about the visual display and interpretation of data:

- Read Chapter 3, "Visual Displays of Data," pages 76–116 in your *Statistical Reasoning for Everyday Life* textbook. The objectives of this chapter include learning about frequency tables, picturing distributions of data, and using graphics in media. Real-life examples are also given to show how these concepts work.
- Read "[Sampling: Surveys and How to Ask Questions](#)," pages 89–129, from *Mind on Statistics*. This chapter focuses on the importance of sampling as well as the margin of error that comes with sampling. As you read through this chapter, think about how the concepts that are introduced can help you with your course project.

To learn more about using tables and graphs to display and analyze statistical data, access and review the videos below by Dr. Ami Gates. These videos will support your completion of this week's MyLab Statistics problem set.

- [Frequency Tables and Histograms \[Video\]](#).
- [Bar Graphs in Excel With Pivot Tables \[Video\]](#).
- [Pie Charts in Excel With Pivot Tables \[Video\]](#).

u03s2 - Learning Components

- Examine the elements of sampling and the sampling margin of error.
- Interpret visual displays of data, including frequency tables, picturing distributions of data, and graphics.
- Examine the elements of sampling and the sampling margin of error.
- Discuss ways to develop effective survey questions.

u03a1 - Problem Set

This Problem Set will help you practice the skills you learned about this week.

When ready, access MyLab Statistics, and go to **Unit 3 Problem Set** in the **HOMEWORK** section. Complete problems 1–8.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u03a2 - Project: Designing a Focused Survey

This is the second component of your course project.

Assignment Overview and Preparation

In this assignment, you will define your data collection strategy, which includes developing six survey questions. To allow you to focus your time and effort on the actual survey tool and analysis, this course uses a software program to provide the data. Using technology to generate survey data causes hypothetical restrictions in your survey design. As a result, the number and type of questions you write for your survey must follow the [Data Collection Template \[DOC\]](#) provided for this assignment.

Keep in mind that you will not be conducting the survey by mailing or emailing questionnaires. Instead, you will use an electronic survey generator tool, which accepts only certain types of questions, to generate random responses; therefore, the types of questions you can ask must adhere to the guidelines listed below. In the future, as you design surveys to solve problems or answer key questions in your professional life, you will likely draw from a broader range of question types.

Make sure you have watched the [Week 3 Project Video](#). Your instructor walks you through the template for this assignment.

Guidelines for the Questions

- Compose all six survey questions in question form. Write like you are directly asking the survey participant. For example, ask, "How many cats do you own?" rather than stating, "The number of cats owned."
- Write binary questions for 1–4. Binary questions have only two possible responses. Examples of this are yes/no, true/false, and male/female (to name a few).
- Write quantitative questions for 5–6. These questions have to elicit a single numeric response. Survey participants can respond with only one number.
- Avoid asking the following types of questions, as there are certain types of questions that are not within the parameters of the project:
 - Questions where survey participants have to explain something. This includes short answer and fill-in-the-blank questions.
 - Questions that use a Likert scale. That is where a participant would choose from responses such as strongly agree, agree, neutral, disagree, and strongly disagree.
 - Questions where a participant chooses a number on a scale, such as 1 to 10 or 1 to 5.
 - Questions contingent on another question. Each question must have a stand-alone response.
 - Questions already answered based on how you defined your population. For example, if your population includes only males, do not ask "Are you male or female?"

Guidelines for the Minimum and the Maximum of the Questions

The minimum value is the lowest number with which you think a participant can or will respond. The maximum value is the highest number with which you think a participant can or will respond. To determine these values, make an educated estimate based on your population and the research you have conducted on the issue. For example, if we are surveying Capella students, we might ask "What is your age?" In this situation, a minimum age might be 16, and a maximum age might be 85. Note that it is possible to be outside these ranges. The minimum and the maximum are approximations, or likely ranges, of what you expect.

- Your binary questions will not have a minimum or a maximum.
- You will need to set a minimum and a maximum for each of the quantitative questions.
- The minimum and the maximum are each one single number.

Guidelines for the Expected Values for Typical Responses to the Questions

The typical responses will help the program that generates your hypothetical data produce more realistic participant responses based on your knowledge of the issue you are studying. The typical response will fall between the minimum and the maximum. This is the value you think would be the most common response from survey participants. Base the typical response on your knowledge of what you are surveying and the research you have conducted on the issue.

- You will not need to fill in a typical response for questions 1 through 4.
- The typical responses for the quantitative questions should be what you think will be the mean (average) of all the responses.
- The typical response is one single number.

Assignment Instructions

- Use the Data Collection Template [DOC] to define your strategy.
- Include the following items in your strategy:
 - Your target population for the survey.

- Your sampling strategy and how you would attempt to conduct your survey. Be sure to include some rationale for your strategy and any potential issues that might affect your survey results.
- Your six survey questions following the guidelines presented above. Be sure to document the expected value along with a reasonable minimum value and maximum value in the table, as you will use these pre-survey values in later project components.
- In Table 1 of the Data Collection Template [DOC], fill in every box that says "you fill in" and then remove that message once you have done this. Your final product should have a response in every box; there should be no empty boxes in the table.

When you have completed this assignment, submit it to your instructor. Before submitting it, refer to the Project: Designing a Focused Survey Scoring Guide to ensure that it meets the grading criteria.

u03d1 - Project: Peer Feedback on Survey Questions

For the Designing a Focused Survey project component due this week, you are asked to write a set of survey questions for the Statistical Analysis project. Prior to submitting this activity for credit, post your survey questions in this discussion.

This will be an opportunity for you to receive and to give feedback on each other's work.

Response Guidelines

Review the posts of your peers and respond to two with constructive feedback on their survey questions. Be sure to point out the things they did well as well as things that might need improvement.

The [Providing Formative Feedback \[DOC\]](#) document provides tips on how to give feedback to your peer.

Course Resources

Undergraduate Discussion Participation Scoring Guide

Providing Formative Feedback [DOC]

u03d1 - Learning Components

- Discuss ways to develop effective survey questions.

Unit 4 >> Summarizing Data With Statistics

Introduction



Based on your initial data analysis, you decide to continue researching home data before making a purchase. You want to make an informed decision concerning your purchase, so you examine comparable home sale prices in potential neighborhoods of interest. It is your goal to not overpay for the house and thus your aim is to pay a similar amount as your neighbors. But what is meant by "similar" here?

Suppose recent comparable sales in the neighborhood are as follows: 220K, 245K, 350K, 275K, 50K, 284K, and 305K. Furthermore, the house that you plan to purchase is 280K. Is this similar to the comparable sales? How do you make a clear determination?

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Quiz:** Take the first quiz, which covers Weeks 1, 2, and 3.
- **Planning:** Read about the Project: Survey Results assignment due in Week 5 to be sure you understand the assignment requirements.

Course Resources

[Unit 4 Intro Image](#) | [Transcript](#)

Learning Activities

u04s1 - What You Need to Do

Assignment Overview

In this week's MyLab Statistics homework, you will practice your knowledge of concepts such as averages, distributions of data, and measurements of variation.

Quiz Overview

Your first quiz is due this week. This quiz covers the material in Weeks 1, 2, and 3. You have two chances to take the quiz, and the highest score will be your final score for the quiz. Note that if you do decide to take the quiz a second time, you will be given different questions

u04s1 - Learning Components

- Apply understanding of statistical procedures to solve problems.

u04s2 - What You Need to Know

Using measures of central tendency can help you analyze samples of data. Here, the sample is home sale prices, and it is our goal to determine the "central" value. Common measures of central tendency are the mean, median, and mode.

The mean is the arithmetic average. To compute the mean of a sample, we need only sum the values and divide by the number of values: $(\$220K + \$245K + \$350K + \$275K + \$50K + \$284K + \$305K)/7 = \$247K$.

The median is the "middle" value once all of the values are placed in ascending or descending order. First, order the values: \$50K, \$220K, \$245K, \$275K, \$284K, \$305K, \$350K.

Then, select the middle value. Thus, the median is \$275K.

The mode is the value that occurs most often. In this sample, each value occurs only once. Thus, there is no clear mode. Note that the mode is not a useful measure of central tendency in this scenario.

Note that if we were to compare the sale price to the the mean value, it may appear that the purchase price of \$280K may be too high given the comparable sale prices. However, when comparing to the median value, \$280,000 seems to be a reasonable price. Why is there a difference?

Answer: Outliers.

The value of \$50K is considered in an outlier as it is very "different" when compared to the majority of the values in the sample. Observe that outliers can skew the mean but will generally have less of an effect on the median given how each are computed.

For this reason, when samples contain outliers, the median is often the best measure of central tendency to give you the best estimate of the "central" value.

To learn more about averages, the shapes of distributions, measures of variation, and statistical procedures, read Chapter 4, "Describing Data," pages 117–158 in your *Statistical Reasoning for Everyday Life* textbook. The real-world examples in this chapter illustrate how these concepts are used in the stock market and in economics.

To learn more about measures of central tendency, variation, and standard deviation, access and review the videos below by Dr. Ami Gates. These videos will support your completion of the Week 4 MyLab Statistics problem set and the upcoming course project assignments in Weeks 5 and 7.

- [Measures of Central Tendency](#)
- [Measures of Variation](#)

u04s2 - Learning Components

- Examine averages, the shapes of distributions, measures of variation, and statistical procedures
- Analyze survey methods.

u04a1 - Problem Set

The focus of this week was on describing data and on introducing concepts such as averages, shape distributions, and measurements of variation. This Problem Set will give you a chance to review these concepts and to practice the skills that were introduced to you.

When ready, access MyLab Statistics, and go to **Unit 4 Problem Set** in the **HOMEWORK** section. Complete problems 1–10.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u04a2 - Quiz (Weeks 1–3)

This quiz will be for the material you learned in Weeks 1–3.

You have been able to practice the skills from Weeks 1, 2, and 3 through the homework assignments and discussions in the previous weeks. Now, it is time to assess those skills.

To access the quiz:

1. Go to MyLab Statistics and click **QUIZZES & TESTS**, which is located in the left-hand tool bar.
2. Next, click **Quiz Units 1, 2, 3**, which is located in the middle of the page.
3. Prior to starting, make sure you read the instructions and reminders located on the **Are you ready to start** page.
4. Once you are ready to actually start the quiz, click **I am ready to start**, which is located on the right-hand side of the page.
5. When you have answered all questions, click **Submit Quiz**.

Here are a few items to keep in mind as you take the quiz:

- You have two chances to take the quiz. The highest score will be your final score for the quiz.
- If you do decide to take the quiz a second time, you will be given different questions.
- There is no time limit for the quiz.
- Though it is recommended to answer all of the questions within one session of taking the quiz, you can log out of the quiz in the middle of taking it and then go back in later to finish it, as long as you have not clicked the **Submit** button.
- Once you have submitted the quiz, your grade is recorded. You will be brought to a screen in which you can see your grade and the results of each quiz question.
- Ignore the "Sample Tests and Quizzes" area. MyStatLab posts these and they contain material not covered in our course.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed the quiz, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the quiz, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Quiz grade for the week.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

If you have any issues or questions, contact your instructor.

u04v1 - Interactive Learning Module: Survey Data Generator

Throughout the course, you will complete six assignments that culminate in the Statistical Analysis project, where you will develop a hypothetical data collection survey on a topic of interest to you. The third assignment in the course project series, Survey Results, is due next week:

- Week 1: Initial Survey Design.
- Week 3: Designing a Focused Survey.
- **Week 5: Survey Results.**
- Week 7: Analyzing the Data Set Using Descriptive Statistics.
- Week 9: Analyzing the Data Set Using Inferential Statistics.
- Week 10: Statistical Analysis (final project).

Prepare for the assignment by completing the following:

- Review the assignment instructions and scoring guide.
- Watch your instructor walk through some important elements of the assignment in the following video:
 - [Week 5 Project Video](#).
- Familiarize yourself with the assignment tool in this Survey Data Generator media piece:

Course Resources

Survey Data Generator

- Analyze survey methods.

Unit 5 >> What Is Normal?

Introduction



Given your initial investigations of home sales with a limited sample size of comparables, you have decided to move forward with a home purchase.

Before committing to the sale, you follow up with more extensive analysis and a larger sample of comparables. You collect comparable history for the past two years in your neighborhood of choice. You find there have been 200 comparable sales. How do you quantify how similar your desired home is to the sample of comparables?

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Course Project:** Submit the third component of your course project, the Survey Results assignment.

Course Resources

[Unit 5 Intro Image](#) | [Transcript](#)

Learning Activities

u05s1 - What You Need to Do

Assignment Overview

This week's MyLab Statistics homework will give you the opportunity to practice the statistical analysis skills you are learning, including how to determine the properties of a normal distribution.

Project Overview

For the third component of the course project (Survey Results, u05a2), you will use a data generator tool this week to generate hypothetical data for the survey questions you developed in Week 3.

u05s2 - What You Need to Know

To support your investigation, you create a histogram of the data and identify that the distribution of home sale prices appears to be normal (except for a few outliers).

You can visually assess the chart, and it seems the home you wish to purchase is "similarly" priced to those in the sample. Still, you want a more definitive conclusion. Thus, you decide to quantify how similar your home is to the sample of comparables. To do this, you compute the z-score of your home relative to the sample. The z-score quantifies how much your home price deviates from the mean relative to the population.

View an equation that calculates the z-score:

- [Unit 5 Equation 1.](#)

You then compute the mean and standard deviation of the sample to complete the computation:

View an equation that calculates the mean:

- [Unit 5 Equation 2.](#)

View an equation that calculates the standard deviation:

- [Unit 5 Equation 3.](#)

You conclude that your home price is indeed similar to the comparables to the neighborhood. You are now ready to purchase with confidence!

To learn more about z-scores in relation to normal distributions, read Chapter 5, "A Normal World," pages 159–188 in your *Statistical Reasoning for Everyday Life* textbook.

- You will also investigate the central limit theorem.
- The real-world examples provided in this chapter include a focus on education.

To learn more about z-tables, z-scores, and normal probability and distributions, access and review the videos below by Dr. Ami Gates. These videos will support your completion of the Week 5 MyLab Statistics problem set and the Survey Results course project assignment.

- [Normal Probabilities Using the Z Table and Z Scores \[Video\]](#).
- [Shapes of Distributions \[Video\]](#).
- [Normal Probabilities and the Empirical Rule \[Video\]](#).

u05s2 - Learning Components

- Examine z tables, z scores, normal probability, and the central limit theorem.
- Analyze survey data.
- Create appropriate visual representations of data.

u05a1 - Problem Set

It is time to practice the skills and expand your understanding of the information provided to you this week.

When ready, access MyLab Statistics, and go to **Unit 5 Problem Set** in the **HOMEWORK** section. Complete problems 1–13.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u05a2 - Project: Survey Results

For this assignment, you will use a data generator tool to generate hypothetical data for the questions you developed.

To generate data using the survey data generator, complete the following:

- Open the [Survey Data Generator](#). The Survey Data Generator will generate responses to the set of six survey questions you previously defined. It knows nothing about the particular subject of your study; it only generates a set of responses to question types that are predefined.
- Type the minimum, the maximum, and the expected values for questions 5 and 6 into the Survey Data Generator. (These are values for the quantitative questions from Table 1 of your completed Data Collection Template.) Note that the generator has spaces only for the values for your two quantitative questions.
 - For the top set of boxes, enter the values for question 5.
 - For the bottom set of boxes, enter the values for question 6.
 - For each of these questions, you must enter a single number for the minimum, the maximum, and the expected value.
 - For each of these questions, do not enter commas or other symbols.
- Select Download Excel Spreadsheet. An Excel spreadsheet will be created that contains your survey responses.
- Keep in mind the following about the Excel data:
 - Excel will have six columns (A–F) and one column for each question (1–6).
 - Columns A–D represent the responses for questions 1–4 and should only contain 0s and 1s. Columns E and F represent the responses for questions 5–6 and should contain numbers between your minimum and maximum.
 - Each row will represent the responses from one survey participant. For example, the first row of answers represents the first survey participant's answers to all six questions. The second row of answers represents the second survey participant's answers to the questions—and so forth. The number of rows of answers is how many participants completed the survey.
 - You need to use the Survey Data Generator again if a column contains all the same numbers. There must be variation in these responses for you to statistically analyze the data. Check to see that columns 1 through 4 contain a mix of 0s and 1s and that columns 5 and 6 contain a range of different numbers between your minimum and maximum.
- Identify what the 0s and 1s mean in columns A through D. The generator automatically generates 0s and 1s for the responses to your binary questions (1–4), so do not enter anything into the generator for these questions. The tool knows that the only possible responses for these questions are 0 and 1. For example, if you asked: "Are you male or female?" you could assign Male = 0 and Female = 1, or vice versa. For the next project assignment (u07a2), you will analyze the survey responses and will need to assign 0 and 1 to the two possible responses for your binary questions; it is up to you which response to assign 0 and which to assign 1. For this assignment, u05a2, you do not need to submit your assignment of these values—just keep this in mind for the future.

Make sure you have watched the [Week 5 Project Video](#). Your instructor will walk you through the process for completing this assignment.

Instructions

1. Submit the Excel spreadsheet to your instructor in the Survey Results assignment area. Do not manipulate the results created by the survey generator. No statistical calculations are completed until the next project assignment.
2. Review the Survey Results Scoring Guide and the Statistical Analysis course project description prior to submitting this assignment, to ensure you have met the expectations of the assignment.

Course Resources

Week 5 Project Video

[Survey Data Generator](#) | Transcript

Unit 6 >> Probability in Statistics

Introduction



You are still working as a ride-share driver on weekends in your new neighborhood. Meeting your new neighbors has been fun. Recently, many of your riders have been talking about the lottery. The jackpot has grown to over a hundred million dollars!

One of your riders notes that they know what numbers are "due." They have been tracking the lotto numbers and note that numbers 21, 17, 4, 2, and 19 have not been selected in over six months! The rider concludes that these numbers are more likely this lotto draw. Based on your knowledge of statistics, do you think the rider's conclusion is accurate?

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Planning:** Read about the Analyzing the Data Set Using Descriptive Statistics assignment due in Week 7 to be sure you understand the requirements.

Course Resources

[Unit 6 Intro Image](#) | [Transcript](#)

Learning Activities

u06s1 - What You Need to Do

Assignment Overview

This week's MyLab Statistics homework will give you the opportunity to learn more about probability and its important role in statistics.

Project Preparation

This week, you will also review the assignment instructions, scoring guide, and associated resources for the fourth course project assignment, Analyzing the Data Set Using Descriptive Statistics.

u06s2 - What You Need to Know

Given your new interest in statistical analysis, you attempt to explain to your rider the concept of independent statistical trials. In this lotto game, five numbers are chosen from week to week. However, as you note to your rider, each week's selections do not depend on any of the

selections of the previous weeks. They are in fact independent trials (assuming a fair draw). This means that the probability of each week's selections do not change based on the selections of the previous weeks. You note that this common misconception is known as the "Gambler's Fallacy."

To learn more about the basics of probability, the role of probability in statistics, and combining probabilities, read Chapter 6, "Probability in Statistics," pages 189–231 in your *Statistical Reasoning for Everyday Life* textbook.

- Pay particular attention to how probabilities work in our everyday world.
- Real-world examples include uses in social sciences and the law, among others.

To learn more about working with probability and dependence, access Dr. Ami Gates's website and review the example for using a contingency table to determine probability. Reviewing this example will support your completion of the MyLab Statistics problem set this week.

- [Using Contingency Tables for Probability and Dependence](#).

u06s2 - Learning Components

- Examine the role of probability in statistics and the function of probability in everyday life.

u06a1 - Problem Set

The focus of this week was probability—what it is, its role in statistics, and how to combine probabilities. In this Problem Set, you will have a chance to understand this in more detail.

When ready, access MyLab Statistics and go to **Unit 6 Problem Set** in the **HOMEWORK** section. Complete problems 1–9.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u06v1 - Interactive Learning Module: Descriptive Statistics With Excel

Throughout the course, you will complete six assignments that culminate in the Statistical Analysis project, where you will develop a hypothetical data collection survey on a topic of interest to you. The fourth assignment in the course project series, Analyzing the Data Set Using Descriptive Statistics, is due next week:

- Week 1: Initial Survey Design.
- Week 3: Designing a Focused Survey.
- Week 5: Survey Results.
- **Week 7: Analyzing the Data Set Using Descriptive Statistics.**
- Week 9: Analyzing the Data Set Using Inferential Statistics.
- Week 10: Statistical Analysis (final project).

Prepare for the assignment by completing the following:

- Review the assignment instructions and scoring guide.
- Watch your instructor walk through some important elements of the assignment:

- [Week 7 Project Video](#).

Then, complete the following practice activity.

Course Resources

Week 7 Project Video

[Descriptive Statistics With Excel](#)

u06v1 - Learning Components

- Analyze approaches to descriptive statistics.

Unit 7 >> Statistical Relationships

Introduction



Time has been flying since your move—it is already winter—your first winter in your new neighborhood. You find that, because of your job, you are sitting most of the day. You have put on a few pounds, but you are developing a diet plan to support a healthy lifestyle. While chatting with a rider, you mention you believe that having pumpkin soup for dinner is a great way to enjoy a warm meal that incorporates good nutrition with a moderate calorie count.

Your rider objects, noting that she has repeatedly observed that she often does not feel well when eating pumpkin soup. She then concludes the discussion stating that pumpkin soup is the cause of her feeling unwell. How do you respond?

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Assignment:** Submit the fourth component of your course project, the Analyzing the Data Set Using Descriptive Statistics assignment.
- **Quiz:** Take the second quiz, which covers Weeks 4, 5, and 6.

Course Resources

[Unit 7 Intro Image](#) | Transcript

Learning Activities

u07s1 - What You Need to Do

Assignment Overview

In this week's MyLab Statistics homework, you will practice your understanding of the relationships between variables, particularly the distinction between causation and correlation.

Project Preparation

This week, you will also use descriptive statistics to analyze your data set when you complete the fourth assignment in your course project.

Quiz Overview

Your second quiz is due this week. This quiz covers the material in Weeks 4, 5, and 6. You have two chances to take the quiz, and the highest score will be your final score for the quiz. Note that if you do decide to take the quiz a second time, you will be given different questions.

u07s2 - What You Need to Know

You follow up with your rider and note that observing such information about nutrition and health is certainly laudable. Although the pumpkin soup may be the cause of her illness, it is not a conclusion that can be supported statistically from observations. The simple reason: correlation does not imply causation. Observing that an increase of consumption of pumpkin soup is often co-observed with feeling unwell does not imply that pumpkin soup is causing this feeling. One possible reason: there may be many other factors which affect our observations. For example, you note, weather may be an intermediary factor that can affect both your wellness and whether you crave warm pumpkin soup. When it is cold outside, you may be more likely to be unwell, and if it is cold outside, you may be more likely to eat a warm soup.

Your rider is not only impressed by your statistical acumen, she recalls that it was often quite cold outside when she was consuming the pumpkin soup. She agrees that pumpkin soup may not be the culprit here, as there may have been other intermediary factors affecting her observations.

For more information about why correlation does not equal causation, read Chapter 7, "Correlation and Causality," pages 232–268, in your course text:

- Pay particular attention as you read through this chapter to how you interpret calculations and the search for causality.
- The real-world examples provided in this chapter focus on how causality and correlation work in understanding education and the environment.

To learn more about correlation, access and review the videos below by Dr. Ami Gates. These videos will support your completion of the MyLab Statistics problem set this week.

- [Correlation, Scatterplots, Trendlines \(Regression Equations\) and Prediction Using Excel.](#)
- [Data Analysis from Google Forms: Correlation.](#)

u07s2 - Learning Components

- Examine correlation and causality.
- Analyze approaches to descriptive statistics.

u07a1 - Problem Set

This Problem Set will help you become more comfortable with the topics and information presented this week.

When ready, access MyLab Statistics, and go to **Unit 7 Problem Set** in the **HOMEWORK** section. Complete problems 1–4.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work for this unit to your personal satisfaction, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u07a2 - Project: Analyzing the Data Set Using Descriptive Statistics

Now that you have your unique survey data in Excel, you can perform descriptive statistics with the tools we learned at the beginning of the course.

- **Windows PC users:** For installing an Analysis ToolPak add-in, please use your HELP feature in your version of Microsoft Excel.
- **Mac users:** [StatPlus: Mac LE](#) is the free equivalent for Apple users, but you must download it from AnalystSoft. Note: Excel 2016 now has an available Toolpak add-in.

Make sure you have watched the [Week 7 Project Video](#). Your instructor walks you through the process.

Assignment Instructions

Complete this assignment on one Excel sheet. Access and review the [Analyzing the Data Set Using Descriptive Statistics \[XLSX\]](#).

Include the following components in your analysis of the data:

Part 1

Analyze the data for questions 1, 2, 3, and 4 (binary questions). Your analysis must have the following elements:

- Sample Size.
- Sample Proportion of each response.
- Bar Chart or Pie Chart.

Part 2

Analyze the data for Questions 5 and 6. Your analysis must have the following elements:

- Sample mean.
- Sample median.
- Sample mode.
- Sample range.
- Sample standard deviation.
- Sample minimum and maximum.
- Histogram.

Part 3

Explore your data a bit further. What are two interesting findings from your survey responses? You might investigate responses for selected variables based on responses to your binomial questions. For example, if the answer to question 1 were Male or Female, and the answer to question 6 were Annual Income, you might examine average annual income for males only and females only and compare these results.

Present your findings in an appropriate table, graph, or chart. Then, write in the same Excel spreadsheet a 1–2 paragraph summary of your findings.

Notes

- **Technology:** You may need to sort or rearrange your original data file to accomplish some of these tasks. Be sure you keep a copy of your original data file as a backup.
- **Results:** Because the survey data generation is done without context, you will have to put aside any preconceived notions about how your data should look. Your task is to analyze, interpret, and communicate the unique results.
- **Binary Question:** For the responses to Questions 1–4, you will need to assign the survey responses to 0s and 1s generated for questions 1–4 in columns A through D. The generator automatically generates 0s and 1s for the responses to your binary questions (1–4). The tool does not know your questions or possible responses for these questions. Assign 0 to one of your possible responses and assign 1 to the other possible response. For example, if you asked: "Are you male or female?" you could assign Male = 0 and Female = 1, or vice versa. It is up to you which response to assign 0 and which to assign 1.

Submission and Verification Instructions

1. When you have completed this assignment, submit your Excel spreadsheet containing Parts 1–3, to your instructor in the Analyzing the Data Set Using Descriptive Statistics Assignment area. **Format your findings with appropriate, legible labels.**
2. Verify you have included all of the elements for Parts 1–3 before submitting. You should have:
 - Four bar graphs (or four pie charts), one each for questions 1–4.
 - Two histograms, one each for questions 5 and 6.
 - Two tables, graphs, or charts to represent interesting findings from your survey responses. Include a 1–2 paragraph summary of your findings.
3. Refer to the Analyzing the Data Set Using Descriptive Statistics Scoring Guide before submitting to ensure your assignment meets the grading criteria.

u07a3 - Quiz (Weeks 4–6)

This quiz will be for the material you learned in Weeks 4–6.

Now it is time to assess the skills you have obtained from Weeks 4, 5, and 6.

To access the quiz:

1. Go to MyLab Statistics and click **QUIZZES & TESTS**, which is located in the left-hand tool bar.
2. Click **Quiz Units 4, 5, 6**, which is located in the middle of the page.
3. Prior to starting, make sure you read the instructions and reminders located on the **Are you ready to start** page.
4. Once you are ready to actually start the quiz, click **I am ready to start**, which is located on the right-hand side of the page.
5. When you have answered all questions, click **Submit Quiz**.

Here are a few items to keep in mind as you take the quiz:

- You have two chances to take the quiz. The highest score will be your final score for the quiz.
- If you do decide to take the quiz a second time, you will be given different questions.
- There is no time limit for the quiz.
- Though it is recommended to answer all of the questions within one session of taking the quiz, you can log out of the quiz in the middle of taking it and then go back in later to finish it, as long as you have not clicked the **Submit** button.
- Once you have submitted the quiz, your grade is recorded. You will be brought to a screen in which you can see your grade and the results of each quiz question.
- Ignore the "Sample Tests and Quizzes" area. MyStatLab posts these and they contain material not covered in our course.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed the quiz, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the quiz, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Quiz grade for the week.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

If you have any issues or questions, contact your instructor.

Unit 8 >> Statistical Inference From Sample to Population

Introduction



Your first job as a market analyst is to analyze ride-share data to determine the average fare per rider for your region. For example, if it is said that the average cost for 100 people is \$12, what does that mean for the population as a whole?

When you infer back to the whole, there may be some error or variance. Therefore, the report should estimate a range—for example, \$12 plus or minus \$2. Once you know the margin of error, you can decide how much trust to give to a sample statistic. How do you determine the margin of error?

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Planning:** Read about the Analyzing the Data Set Using Inferential Statistics assignment due in Week 9 to be sure you understand the requirements.

Course Resources

[Unit 8 Intro Image](#) | [Transcript](#)

Learning Activities

u08s1 - What You Need to Do

Assignment Overview

In this week's MyLab Statistics homework, you will practice applying the concepts you are learning, including sampling distributions and estimation of population means.

Project Preparation

This week, you will also prepare for your course project when you review the instructions, scoring guide, and associated resources for next week's assignment, Analyzing the Data Set Using Inferential Statistics.

u08s2 - What You Need to Know

Collecting some ride data from RideShare drivers is a good start; however, you know that computing a sample mean is not the same as knowing the population mean. There is error associated with such an estimate that is related to the sample size and the variance of the fares. Since you know how to compute this error using confidence intervals, you are convinced you can reach an accurate range for the average fare per rider.

So you proceed by collecting data from 30 rides, and their corresponding fares had the following mean and standard deviation:

- Mean = \$12.75.
- Standard Deviation = \$1.00.

And using the sample mean and standard deviation you can compute a 95% **confidence interval** for the population mean.

View [Unit 8 Equation 1](#), where:

- "n" is the sample size (36 rides).
- "stdev" is the standard deviation.
- "zc" is the cumulative z value (from any z table) for the CI percentage given (in this case, our CI percentage is 95%).

To get zc:

- 95% is .95.
- $1 - .095 = .05$ (so we have .05 in BOTH tails).
- $.05/2 = .025$ (in each tail).
- $1 - .025 = .975$.
- Look up .975 on an z table.
- The z value for .975 is 1.96.
- So zc for a 95% CI is 1.96, *which is often rounded to 2*.

View an equation that continues this calculation:

- [Unit 8 Equation 2](#).

Thus, we are 95% confident that the population mean falls within the range of 12.75 +/- 0.33

Or we can write this out as an interval:

[\$12.42 , \$13.08]

Thus, you are 95% confident that the mean ride fare of the population is between \$12.42 and \$13.08.

To learn more about the distinction between sample means and population means, read Chapter 8, "From Samples to Populations," pages 269–299 in your *Statistical Reasoning for Everyday Life* textbook.

- When reading through this chapter, pay particular attention to sampling distributions, estimating population means, and estimating population propositions—both what they are and how to use them.
- The examples of how these are used provided in the book include a focus on history and literature.

To learn more about working with populations and samples, access and review the resources below by Dr. Ami Gates. Reviewing these resources will support your completion of this week's MyLab Statistics problem set and the course project assignment in Week 9.

- [Sample Size for Means Using Margin of Error and Confidence Interval](#).
- [Finding Z Critical Values](#).
- [Confidence Intervals for Means \[Video\]](#).
- [Confidence Intervals for Proportions \[Video\]](#).
- [Excel Confidence Intervals \[Video\]](#).

u08s2 - Learning Components

- Examine margins of error, confidence intervals, z critical values, and other approaches to populations and samples.
- Examine the distinction between sample means and population means.

u08a1 - Problem Set

The Problem Set this week will help you better understand the concepts presented this week.

When ready, access MyLab Statistics, and go to **Unit 8 Problem Set** in the **HOMEWORK** section. Complete problems 1–13.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

Course Resources

MAT2001 MyLab Statistics Learner Guide

u08v1 - Interactive Learning Module: Inferential Statistics

Throughout the course, you will complete six assignments that culminate in the Statistical Analysis project, where you will develop a hypothetical data collection survey on a topic of interest to you. The fifth assignment in the course project series, Analyzing the Data Set Using Inferential Statistics, is due next week:

- Week 1: Initial Survey Design.
- Week 3: Designing a Focused Survey.
- Week 5: Survey Results.
- Week 7: Analyzing the Data Set Using Descriptive Statistics.
- **Week 9: Analyzing the Data Set Using Inferential Statistics.**
- Week 10: Statistical Analysis (final project).

Prepare for the assignment by completing the following:

- Review the assignment instructions and scoring guide.
- Watch your instructor walk through some important elements of the assignment:
 - [Week 9 Project Video](#).

Then, complete the following practice activity.

Course Resources

Week 9 Project Video

[Inferential Statistics](#)

u08v1 - Learning Components

- Examine approaches to inferential statistics.

Unit 9 >> Testing a Hypothesis**Introduction**

You recently set up a new multimedia entertainment center in your living room and watched the movie *Moneyball*, starring Brad Pitt and Jonah Hill. The movie shows how statistics can be used to produce insights and make data-driven decisions about the potential success of prospective players. A great example of this is "Sabermetrics," designed by Coach Beane of the Oakland A's and chronicled in the movie. Coach Beane strayed from standard recruiting methods and relied upon statistical inference to determine which factors would produce the most successful players, which led to unprecedented success for his team.

Imagine that you are a baseball coach with access to player history data. How might you use hypothesis tests to help determine which factors observed in the minor league or college level seem to contribute to the success of a player at the major league level?

Hypothesis testing uses concepts of probability and normal distribution to test a claim regarding a population. Hypothesis testing gives us rules for accepting or rejecting a hypothesis. In other words, it is a scientific method for making decisions without opinion.

Although newspaper articles do not always give you details on their methods, they might say that the results were statistically significant, which means hypothesis tests were conducted. In contrast, it is common to see the results of hypothesis tests discussed in detail in more formal experiments and reports.

This week, you will learn more about what hypothesis testing is, how it is conducted, and how to use the information.

This week you will:

- **Assignment:** Complete your MyLab Statistics homework.
- **Course Project:** Submit the fifth component of your course project, the Analyzing the Data Set Using Inferential Statistics assignment.
- **Planning:** Your Statistical Analysis assignment is due in Week 10. Be sure you understand the assignment requirements.

Course Resources

[Unit 9 Intro Image](#) | Transcript

Learning Activities**u09s1 - What You Need to Do****Assignment Overview**

In this week's MyLab Statistics homework, you will practice your knowledge of hypothesis testing.

Project Preparation

This week, you will submit the third component of your course project, the Analyzing the Data Set Using Inferential Statistics assignment. You will also review the assignment instructions, scoring guide, and associated resources for the final course project due next week.

u09s2 - What You Need to Know

Returning to our *Moneyball* example from earlier, let's focus on RBIs, also known as "runs batted in." If you wanted to use hypothesis tests to help determine which factors observed in a minor league or at the college level might contribute to the success of a player at the major league level, you could collect data from all player prospects over the past 20 years or so and split them up into two groups: prospects considered successful and prospects considered unsuccessful.

To determine whether RBI stats can help predict whether a prospect will be successful or not, we can run a hypothesis test (for example, an independent sample t-test) with the following hypotheses.

- H_0 (null hypothesis): the mean RBIs for successful prospects = mean RBIs of unsuccessful prospects.
- H_1 (alt hypothesis): the mean RBIs for successful prospects \neq mean RBIs of unsuccessful prospects.

The results of the hypothesis test will support one of these hypotheses and the other can be rejected.

To learn more about hypothesis testing, read Chapter 9, "Hypothesis Testing," pages 300–335 in your *Statistical Reasoning for Everyday Life* textbook.

- The objectives of this chapter are to provide the fundamentals of hypothesis testing, hypothesis testing for population masses, and hypothesis testing for population propositions.
- The real-world examples this week in addition to its focus on health and education and on agriculture will help you understand how hypothesis testing can be used.

To learn more about hypothesis testing, access and review the videos below by Dr. Ami Gates. These videos will support your completion of this week's MyLab Statistics problem set and the course project assignment also due this week.

- [Data Analysis from Google Forms: T-Tests.](#)
- [Data Analysis from Google Forms: Paired T-Tests.](#)
- [Using Excel for Z-Test Hypothesis One Tail.](#)

u09s2 - Learning Components

- Examine approaches to hypothesis testing.

u09a1 - Problem Set

This is the last Problem Set you will complete in this course. This activity focuses on the concepts and information presented this week. You may also find that the skills you have continued to build throughout this course will be helpful in finishing this Problem Set.

When ready, access MyLab Statistics, and go to **Unit 9 Problem Set** in the **HOMEWORK** section. Complete problems 1–10.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed your work to your personal satisfaction for this unit, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the problem, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Problem Set activity grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

u09a2 - Project: Analyzing the Data Set Using Inferential Statistics

At the start of the project, you documented your typical responses along with your question formulations. You did not know it at the time, but you were hypothesizing about the future survey results. Now that you have the actual survey data, you can go back and apply the tools of inferential statistics to test your hypotheses.

Assignment Overview and Preparation

For this assignment, you will:

- Calculate an appropriate 95% confidence interval for each question.
- Perform an appropriate, one-sample hypothesis test for each question. Based on the context of your questions, you may choose to set up your hypothesis test as a one-sided test or two-sided test.

Remember, we want to estimate population proportions in questions 1–4 and population means in questions 5–6 (from Week 7). We already calculated the sample statistics for each question in Week 7. Feel free to use this prior work to help complete the above tasks. That is, we already have sample proportions for questions 1–4 as well as sample means and standard deviations for questions 5–6.

Use the [Analyzing Data With Inferential Statistics Template \[XLSX\]](#). The template has two pages. Be sure to review each one carefully. The first page is the blank template that you will complete, and the second page is a completed example. Almost every type of situation is shown, so try to model your results after the ones shown.

Make sure you have watched the [Week 9 Project Video](#). Your instructor will walk you through the process for completing this assignment.

Instructions

Complete the following in order to apply the tools of inferential statistics to test your hypotheses:

- Open and complete the Excel Analyzing Data With Inferential Statistics Template [XLSX].
- Calculate a 95% confidence interval for each of your survey questions (1–6). Your final product should have six confidence intervals.
- Perform a hypothesis test for each survey question (1–6). Your final product should have six hypothesis tests.

When you have completed this assignment, submit it to your instructor in the Analyzing Data Using Inferential Statistics assignment area.

Before submitting it, refer to the Analyzing the Data Set Using Inferential Statistics Scoring Guide to ensure that it meets the grading criteria.

u09v1 - Interactive Learning Module: Summarizing Survey Results

The final assignment in the course project series, Statistical Analysis, is due next week:

- Week 1: Initial Survey Design.
- Week 3: Designing a Focused Survey.
- Week 5: Survey Results.
- Week 7: Analyzing the Data Set Using Descriptive Statistics.
- Week 9: Analyzing the Data Set Using Inferential Statistics.
- **Week 10: Statistical Analysis (final project).**

Prepare for the assignment by completing the following:

- Review the assignment instructions and scoring guide.
- Watch your instructor walk through some important elements of the assignment:
 - [Week 10 Project Video](#).
- Complete the Summarizing Survey Results practice activity.

Course Resources

Week 10 Project Video

[Summarizing Survey Results](#)

u09v1 - Learning Components

- Examine approaches to summarizing survey results.

Unit 10 >> Executive Summary

Introduction



In your position as an analyst, it would be common that your superiors might ask for an executive summary of analysis you performed on data about things like driver response times or competitive market share. What is an executive summary, how is it used, and what are some of the most important elements to be included when writing one?

This week you will:

- **Course Project:** Submit the final component of your course project, the Statistical Analysis assignment.
- **Quiz:** Take your final quiz of the course, covering concepts from Weeks 7–9.

Course Resources

[Unit 10 Intro Image](#) | Transcript

Learning Activities

u10s1 - What You Need to Do

Assignment Overview

This week, you will complete the final phase of your course project, Statistical Analysis. Your final project submission will be a single document that contains information from all of the previous project assignments along with your written analysis and comments on the survey results.

Quiz Overview

Your final quiz is due this week. This quiz covers the material in Weeks 7, 8, and 9. You have two chances to take the quiz, and the highest score will be your final score for the quiz. Note that if you do decide to take the quiz a second time, you will be given different questions.

u10s2 - What You Need to Know

An executive summary is a document that highlights the most important findings and conclusions relevant to an executive's decision-making process. For the summary that you will write for your final project, you should include a description of the study you developed as well as discussion of each of your six survey questions.

- Focus on communicating the results and interpretations of your results. You will not be able to comment on every little finding, so you will have to make some judgments about what might be the most interesting or revealing results.
- Discuss inferential statistics and how your survey data can be used to estimate or test population parameters such as the population mean and population proportion.
- Your executive summary should be professionally written and follow good writing practices.

You will also complete a Reflection Statement for your course project. To give you some final ideas for real-world applications of statistical functions and concepts, complete the following in your *Statistical Reasoning for Everyday Life* textbook:

- Read "Epilogue: A Perspective on Statistics" on page 369 to see how you should use statistics in the modern world.
- Return to page 336 and skim Chapter 10, "Tests, Two-Way Tables, and ANOVA," pages 336–367. Pay particular attention to distribution for inferences and about a mean, hypothesis testing with two-way variables, and analysis of variance. The examples provided in this chapter focus on the use of these concepts in the fields of criminology and education.

u10s2 - Learning Components

- Examine approaches to summarizing survey results.
- Examine approaches to critical reflection.

u10a1 - Final Project: Statistical Analysis

Now that you have completed all of the statistical calculations involved with your analysis of the survey, it is time to put the project together. Your final project submission will be a single document that contains information from all of the previous components along with your written analysis and comments on the survey results.

The format for your final project submission should include the following sections, in this order:

1. **Title Page.**
2. **Executive Summary** (2–3 double-spaced pages): This should be a summary of the findings and conclusions of the study you developed and conducted. Discuss each of your six survey questions.
3. **Reflection Statement** (1–2 double-spaced pages): This needs to include what you learned both in the course and in this project. Review the competencies of this course, which are located in the syllabus, as well as the criteria of this project to make sure you are focusing on the correct concepts for your reflections.
4. **Appendix** (This includes your supporting data):
 1. Introduction.

2. Data Collection Plan.
3. Descriptive Results.
4. Inferential Statistics.
5. Table of Data From the Survey Data Generator.

The two sections that are new for this project component are the executive summary and the reflection statement. You may also need to edit your introduction to make it fit the style of a project document. The remaining items should be treated as an appendix. As you write your executive summary, you may wish to refer the reader to particular graphs or results in this supporting data section.

Make sure you have watched the [Week 10 Project Video](#). Your instructor walk you through the process for completing this assignment.

Executive Summary

Write a summary (2–3 double-spaced pages) of your course project for someone interested in your work. While you did a lot of calculations and quantitative analysis in the project, your executive summary should give the reader a quick summary of your survey intent, design, and results without an overload of numbers and formulas. Discuss each of your six survey questions.

- Focus on communicating the results and interpretations of your results. You will not be able to comment on every little finding, so you will have to make some judgments about what might be the most interesting or revealing results.
- Discuss inferential statistics and how your survey data can be used to estimate or test population parameters such as the population mean and population proportion.
- Write your executive summary professionally and with good writing practices.

Reflection Statement

Write a summary (1–2 double-spaced pages) of your thoughts on how your view of statistics has changed since you started this course and this project. We have covered a wide range of topics in this course, and many learners quickly forget the formulas they worked so hard to memorize.

- While you may not remember the mathematical formulas, what concepts or ideas will you take from this course?
- How will those ideas influence or impact your personal or professional life?

After you have written and integrated all of the previously described sections and items, refer to the Statistical Analysis course project description and then submit your project in the assignment area.

Course Resources

Week 10 Project Video

u10a2 - Quiz (Weeks 7–9)

This quiz will allow you to practice the skills you learned in Units 7–9.

To access the quiz:

1. Go to MyLab Statistics and click **QUIZZES & TESTS**, which is located in the left-hand tool bar.
2. Click **Quiz Units 7, 8, 9**, which is located in the middle of the page.
3. Make sure you read the instructions and reminders located on the **Are you ready to start** page prior to starting.
4. Click **I am ready to start**, which is located on the right-hand side of the page, once you are ready to actually start the quiz.
5. Click **Submit Quiz** when you have answered all the questions.

Here are a few items to keep in mind as you take the quiz:

- You have two chances to take the quiz. The highest score will be your final score for the quiz.

- You will be given different questions if you do decide to take the quiz a second time.
- There is no time limit for the quiz.
- Though it is recommended to answer all of the questions within one session of taking the quiz, you can log out of the quiz in the middle of taking it and then go back in later to finish it, as long as you have not clicked the **Submit** button.
- Once you have submitted the quiz, your grade is recorded. You will be brought to a screen in which you can see your grade and the results of each quiz question.
- Ignore the "Sample Tests and Quizzes" area. MyLab Statistics posts these and they contain material not covered in our course.

As a reminder, if you need additional help accessing and using MyLab Statistics, refer to the [MAT2001 MyLab Statistics Learner Guide](#).

Once you have completed the quiz, write a note to your instructor within the assignment area in the Capella courseroom. In your note, state that you have completed the quiz, and then submit the note to your instructor. At that time, the grade that you have in MyLab Statistics will be entered in the courseroom as your final Quiz grade for the unit.

Remember that all activities, including Problem Set assignments, are due by the close of the week or as directed by your instructor.

If you have any issues or questions, contact your instructor.

[illegible]