



**Credit Hours:** 3

**Contact Hours:** This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

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## **COURSE DESCRIPTION AND OUTCOMES**

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**Course Description:**

This course provides an introduction to data analysis, data production, and statistical inference. Areas of study include surveys and designated experiments, randomization, causation, regression, and inference, using hypothesis tests. This course fulfills a general education Mathematics requirement. MTH156 is an approved Colorado gPathways course.

**Course Overview:**

This course will provide you with an introduction to statistics and how it can be utilized in the business world. The range of topics that will be covered includes visual and descriptive statistics of data, probability, discrete probability distributions, continuous probability distributions, sampling distributions and statistical inference, hypothesis testing and finally regression analysis. This course will utilize Excel to a great extent from built-in functions to user-entered formulas from the book to do the calculations. You will then analyze the answers obtained in Excel critically in a written paper. The use of adaptive software to work assignments in each chapter will be utilized for mastery exercises as well as exams.

**Cengage MindTap:**

Cengage's MindTap is a web-based assignment and assessment solution required for this course. MindTap is designed to assist you with your coursework based on your needs. In this course you will link to and complete various MindTap activities associated with the course textbook. The weekly Opening and Mastery Exercises, as well as most of the Check Your Understanding activities are located in MindTap. These will correspond to the module chapter readings. While the Opening Exercise and Check Your Understanding scores are not recorded, the Mastery Exercise scores are graded and will be recorded by your instructor in the Grade Center.

In addition, both the midterm and final exam for this course are MindTap activities. Practice exams for both the midterm and final are available in MindTap as well.

**Accessing Your Student Account**

In order to use and benefit from the MindTap resources, you must first register. To activate your account, go to <https://www.cengage.com/services/product/mindtap/general/>

Access the Student Quick Start Guide for easy setup instructions.

If you have problems or concerns while registering or using MindTap, please contact Cengage's Support Team through <http://support.cengage.com>.

### **Course Learning Outcomes:**

1. Summarize where data was obtained and organize these data for graphical representation.
2. Compute measures of location and variability.
3. Describe the basic concepts of probability.
4. Distinguish between discrete and continuous variables and calculate the mean (or expected value), variance, and standard deviation of discrete probability distributions.
5. Explain, calculate and interpret probabilities for a random variable that follows a continuous probability distribution.
6. Describe and determine the sampling distribution for the sample mean and sample proportion as well as construct confidence intervals and determine the sample sizes needed to estimate a population mean.
7. Evaluate and test hypotheses via the p-value or critical value approach with known and unknown population standard deviations.
8. Perform a simple linear regression analysis interpreting both the standard error of the estimate and the coefficient of determination as well as conducting a test of significance of the linear relationship.

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## **COLORADO GTPATHWAYS COURSE**

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**Colorado Guaranteed Transfer (GT) Pathways Course:** The Colorado Commission on Higher Education has approved MTH156: Introduction to Statistics for inclusion in the Guaranteed Transfer (GT) Pathways program in the **GT-MA1** category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to <http://higherred.colorado.gov/academics/transfers/gtpathways/curriculum.html>

The table in **Appendix A** details the specific alignment of Course Learning Outcomes and Assessments to gtPathways Content and Criteria requirements.

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## **PARTICIPATION & ATTENDANCE**

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Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.

Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

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## **COURSE MATERIALS**

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**Textbook Information is located in the CSU-Global Booklist on the Student Portal.**

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## **COURSE SCHEDULE**

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### **Due Dates**

The Academic Week at CSU-Global begins on Monday and ends the following Sunday.

- **Discussion Boards:** The original post must be completed by Thursday at 11:59 p.m. MT and Peer Responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.

- **Opening Exercises:** Take the opening exercise before reading each week's content to see which areas you will need to focus on. You may take these exercises as many times as you need. The opening exercises will not affect your final grade.
- **Mastery Exercises:** Students may access and retake mastery exercises through the last day of class until they achieve the scores they desire.
- **Exams:** Students take a midterm and final exam in this course. Practice exams are available in MindTap for both the midterm and final. The midterm and final exams will also be taken in MindTap. Students will have 3 attempts on the practice exams and 1 attempt on the midterm and final exams. As with the Mastery Exercises, if you do not do well on your first attempt at the review, it is highly recommended to go back and study the material for that module. The midterm is due by Sunday 11:59 p.m. MT of Module 4. The final exam is due by Sunday 11:59 p.m. MT of Module 8. Late submissions for exams are not accepted.
- **Critical Thinking:** Assignments are due Sunday at 11:59 p.m. MT.
- **Live Classroom:** Although participation is not required, two Live Classroom sessions will be held during Weeks 3 and 6.

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## WEEKLY READING AND ASSIGNMENT DETAILS

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### Module 1

#### Readings

- Chapters 1 & 2 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Ajiboye, B. A. & Bankole, O. M. (2013). User Survey of 24-Hour Library Service During Examination Periods at Federal University of Agriculture, Abeokuta, Nigeria. *Journal of Access Services*, 10:172–185. doi: 10.1080/15367967.2013.819550
- Ferreira, M., Almeida, R. R., & Luiz, R. (2013). A new indicator for the measurement of change with ordinal scores. *Quality of Life Research*, 22(8), 1999-2003. doi:10.1007/s11136-012-0288-2

#### Opening Exercise (0 points)

#### Discussion (25 points)

#### Mastery Exercise (15 points)

#### Live Classroom (0 points)

### Module 2

#### Readings

- Chapter 3 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Dresser, J., MacIntyre, M., Chisholm, B., & Lawson, G. E. (2014). Is bone tenderness, as measured by manual agometry, associated with vitamin D deficiency? *Journal of the Canadian Chiropractic Association*, 58(3), 320-327.
- Lihua, T., Bin, Z., Xuejun, L., Chunjie, B., Jie, Z., Dapeng, T., & Pingsha, H. (2014). Development and use of a phytoplankton-index of biotic integrity to assess Yonjiang river ecosystem health. *Polish Journal of Environmental Studies*, 23(3), 901-908.

#### Opening Exercise (0 points)

#### Discussion (25 points)

#### Mastery Exercise (15 points)

#### Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission.

## Option 1: Springdale Shopping Survey (60 points)

### Instructions

The major shopping areas in the community of Springdale include Springdale Mall, West Mall, and the downtown area on Main Street. A telephone survey has been conducted to identify strengths and weaknesses of these areas and to find out how they fit into the shopping activities of local residents. The 150 respondents were also asked to provide information about themselves and their shopping habits. The data are provided in the file SHOPPING. The variables in the survey can be found in the file CODING.

We will concentrate on variables 18–25, which reflect how important each of eight different attributes is in the respondent’s selection of a shopping area. Each of these variables has been measured on a scale of 1 (the attribute is not very important in choosing a shopping area) to 7 (the attribute is very important in choosing a shopping area). The attributes being rated for importance are listed below. Examining the relative importance customers place on these attributes can help a manager “fine-tune” his or her shopping area to make it a more attractive place to shop.

- 18 Easy to return/exchange goods
- 19 High quality of goods
- 20 Low prices
- 21 Good variety of sizes/styles
- 22 Sales staff helpful/friendly
- 23 Convenient shopping hours
- 24 Clean stores and surroundings
- 25 A lot of bargain sales

1. Perform the following operations for variables 18–25:
  - A. Compute descriptive statistics for each variable along with an explanation of what the descriptive statistics tell us about the variable. This will include the mean, mode, range, standard deviation, and the 5-number summary (minimum, first quartile (Q1), median (Q2), third quartile (Q3), and maximum). Be sure to show each calculation in your spreadsheet.
  - B. Are there any data points for any of the variables that can be considered outliers? If there are any outliers in any variable, please list them and state for which variable they are an outlier. Use the z-score method to determine any outliers for this question. Be sure to show each z-score calculation in your spreadsheet for each variable.
2. Based on the results for question 1, which attributes seem to be the most important and the least important in respondents’ choice of a shopping area? Which items from #1 did you use to decide on the least and most important attributes, and why?
3. Determine the correlation coefficient between variable 19 and variables 21–25. Please provide an explanation of the relationships. Show your calculations for each correlation coefficient within the spreadsheet.

### Paper Requirements

Write a report that applies the *Written Assignment Requirements* under the heading *Expectations for CSU-Global Written Assignments* found in the CSU-Global Guide to Writing and APA. Items that should be included, at a minimum, are a title page, an introduction, a body which answers the questions posed in the problem, and a conclusion paragraph that addresses your findings and what you have determined

from the data and your analysis. As with all written assignments, you should have in-text citations and a reference page. Please include any tables of calculations, calculated values, and graphs associated with this problem in the body of your assignment response.

Note: You *must* submit your Excel file with your report. This will aid in grading with partial credit if errors are found in the report.

## **Option 2: World Populations**

### **Instructions**

Today there are 195 sovereign countries in the world that are officially recognized. One can choose to look at many types of data coming from these countries, as there is a plethora of existing information. For this assignment you will be looking at populations of cities within Brazil at four different times (depending on when a census was taken). The data for these cities can be found in the file named Populations. Use all of the data points for each of the years given, but please note that not every city has a population for each census.

Prepare a report (see below) using the numerical methods of descriptive statistics presented in this module to show how the populations of the cities vary over the years (growth rates). Be sure to include the following three (3) items in your report.

1. Compute descriptive statistics for each of the years along with an explanation of what the descriptive statistics tell us about the different years. Are they continually growing, or is there a decrease in the number of people? The descriptive statistics will include the mean, mode, range, standard deviation, and the 5-number summary (minimum, first quartile (Q1), median (Q2), third quartile (Q3), and maximum).
2. Determine which cities, if any, should be considered outliers in each of the years? If there are any outliers in any year, please list them and state for which year each one is an outlier. Use the z-score method to determine outliers for this question showing the z-score calculations for each city and year in your spreadsheet.
3. Determine the correlation coefficient between the first year and each of the other years. Please provide an explanation of the relationships. Show your calculations for each correlation coefficient within the spreadsheet.

### **Paper Requirements**

Write a report that uses the *Written Assignment Requirements* under the heading *Expectations for CSU-Global Written Assignments* found in the CSU-Global Guide to Writing and APA. Items that should be included, at a minimum, are a title page, an introduction, a body which answers the questions posed in the problem, and a conclusion paragraph that addresses your findings and what you have determined from the data and your analysis. As with all written assignments, you should have in-text citations and a reference page. Please include any tables of calculations, calculated values, and graphs associated with this problem in the body of your assignment response.

Note: You *must* submit your Excel file with your report. This will aid in grading with partial credit if errors are found in the report.

## **Module 3**

## Readings

- Chapter 4 in Essentials of modern business statistics: With Microsoft Office Excel
- Edwards, A. (2013). Ars conjectandi three hundred years on. *Significance*, 10(3), 39-41.
- Morsanyi, K., Handley, S. J., & Serpell, S. (2013). Making heads or tails of probability: An experiment with random generators. *British Journal of Educational Psychology*, 83(3), 379-395. doi:10.1111/j.2044-8279.2012.02067.x

## Opening Exercise (0 points)

## Discussion (25 points)

## Mastery Exercise (15 points)

## Live Classroom (0 points)

## Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission.

### Option 1: Springdale Shopping Survey

#### Instructions

The major shopping areas in the community of Springdale include Springdale Mall, West Mall, and the downtown area on Main Street. A telephone survey has been conducted to identify strengths and weaknesses of these areas and to find out how they fit into the shopping activities of local residents. The 150 respondents were also asked to provide information about themselves and their shopping habits. The data are provided in the file SHOPPING. The variables in the survey can be found in the file CODING.

The contingency tables and relative frequency probabilities in this exercise are based on the Springdale Shopping Survey database. Information like that gained from the two parts of this exercise could provide helpful insights into the nature of the respondents, their perceptions, and their spending behaviors. In particular, part 2 focuses on how conditional probabilities related to spending behavior might vary, depending on the gender of the respondent.

Note: Be sure to use five (5) decimal places for your probabilities in the report, as some of them will be quite small. Do not convert to percentages as we are interested in probabilities only here.

1. Based on the relative frequencies for responses to each variable, determine the probability that a randomly selected respondent from:
  - A. SPRSPEND [variable 4] spends at least \$15 during a trip to Springdale Mall.
  - B. DOWSPEND [variable 5] spends at least \$15 during a trip to Downtown.
  - C. WESSPEND [variable 6] spends at least \$15 during a trip to West Mall.

Comparing the preceding probabilities, rank the areas from strongest to weakest in terms of the amount of money a shopper spends during a typical shopping visit.

2. Based on the relative frequencies for responses to each variable, determine the probability that a randomly selected respondent from:
  - A. BSTQUALI [variable 11] feels that Springdale Mall has the highest-quality goods.
  - B. BSTQUALI [variable 11] feels that Downtown has the highest-quality goods.
  - C. BSTQUALI [variable 11] feels that West Mall has the highest-quality goods.

Comparing the preceding probabilities, rank the areas from strongest to weakest in terms of the quality of goods offered.

3. Set up a contingency table for the appropriate variables given, and then determine the following probabilities:
  - A. SPRSPEND and RESPGEN [variables 4 and 26]: Given that the random respondent is a female, what is the probability that she spends at least \$15 during a trip to Springdale Mall? Is a male more likely or less likely than a female to spend at least \$15 during a visit to this area?
  - B. DOWSPEND and RESPGEN [variables 5 and 26]: Given that the random respondent is a female, what is the probability that she spends at least \$15 during a trip to Downtown? Is a male more likely or less likely than a female to spend at least \$15 during a visit to this area?
  - C. WESSPEND and RESPGEN [variables 6 and 26]: Given that the random respondent is a female, what is the probability that she spends at least \$15 during a trip to West Mall? Is a male more likely or less likely than a female to spend at least \$15 during a visit to this area?

Based on the preceding probabilities, rank the shopping areas where males and females are most likely to least likely to spend \$15 or more during a shopping visit.

### **Paper Requirements**

Write a report that uses the *Written Assignment Requirements* under the heading *Expectations for CSU-Global Written Assignments* found in the CSU-Global Guide to Writing and APA. Items that should be included, at a minimum, are a title page, an introduction, a body which answers the questions posed in the problem, and a conclusion paragraph that addresses your findings and what you have determined from the data and your analysis. As with all written assignments, you should have in-text citations and a reference page. Please include any tables of calculations, calculated values, and graphs associated with this problem in the body of your assignment response.

Note: You *must* submit your Excel file with your report. This will aid in grading with partial credit if errors are found in the report.

### **Option 2: Probabilities of Graduation and Publication**

#### **Instructions**

Professors have hundreds of students in their classes each year. Some professors teach only upper-division courses to students who are in their major course of study. Of this group of students, some will graduate and some will be published.

In the following study, three different universities have been tracking a select group of professors over the course of their employment at that university to determine the number of students who are in a particular professor's classes, how many of those students have graduated, and if any of them have had their work published. In the attached Excel file, Probabilities, are the totals for each of the professors at the three different universities that participated in the study.

The purpose of this study is to find the probabilities of graduation and publication for the students in the different professors' courses. While a causal relationship may not be found between a professor and student graduation or publication, we need to rank the professors based on the different probabilities found with the data sets as described below.

Prepare a report (see below) with your ranking of the professors based on the probabilities and conditional probabilities as well as the analysis of each university. Include the following seven (7) items in table format which is provided in the Probabilities file to support your ranking.

Note: Be sure to use five (5) decimal places for your probabilities in the table, as some of them will be quite small. Do not convert to percentages as we are interested in probabilities only here.

1. The overall probability of students graduating at each of the three universities.
2. The overall probability of students having a publication at each of the three universities.
3. The overall probability of students having a publication, given that they graduated at each of the three universities.
4. The probability of a student graduating for each professor.
5. The probability of a student having a publication for each professor.
6. The probability of a student having a publication given that they graduated for each professor.
7. Rank the professors within each university for each of the probabilities in 4–6. Then find the sum of the ranks and determine an overall ranking for each professor.

Be sure to critically analyze the above calculations in your body paragraphs, explaining how you found each type of probability and then the results you obtained. Be sure to also explain your criteria for ranking in steps 4–7, and defend why you chose that ranking method—as your way might not be the typical method.

### **Paper Requirements**

Write a report that uses the *Written Assignment Requirements* under the heading *Expectations for CSU-Global Written Assignments* found in the CSU-Global Guide to Writing and APA. Items that should be included, but are not limited to, are a title page, an introduction, a body which answers the questions posed in the problem, and a conclusion paragraph that addresses your findings and what you have determined from the data and your analysis. As with all written assignments, you should have in-text citations and a reference page. Please include any tables of calculations, calculated values, and graphs associated with this problem in the body of your assignment response.

Note: You *must* submit your Excel file with your report. This will aid in grading with partial credit if errors are found in the report.

## **Module 4**

### **Readings**

- Chapter 5 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Bailey, B. C., & Levin, M. A. (2014). Emporium luggage. *Marketing Education Review*, 24(3), 239-246. doi:10.2753/MER1052-8008240305
- McKinnon, R. (2013). Getting luck properly under control. *Metaphilosophy*, 44(4), 496-511. doi:10.1111/meta.12044

### **Opening Exercise (0 points)**

### **Discussion (25 points)**

### **Mastery Exercise (15 points)**

### **Midterm Exam (250 points)**

This week you have a midterm exam. Take advantage of the practice exam to prepare for this exam. You are given three attempts at the practice midterm exam. Between each attempt, you may wish to return to MindTap to review any of materials from the first four weeks of class for which you have questions.

When you are ready, complete the midterm exam. You are given only one attempt at this exam. Good luck!

## **Module 5**

### **Readings**

- Chapter 6 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Eftimie, E. E., & Eftimie, N. N. (2014). Assessment of wind resources in Brasov region (Romania). *International Journal of Energy & Environment*, 5(4), 447-460.
- Riedel, C., Fenske, N., Müller, M. J., Plachta-Danielzik, S., Keil, T., Grabenhenrich, L., & Kries, R. (2014). Differences in BMI z-scores between offspring of smoking and nonsmoking mothers: A longitudinal study of German children from birth through 14 years of age. *Environmental Health Perspectives*, 122(7), 761-767. doi:10.1289/ehp.1307139

**Opening Exercise (0 points)**

**Discussion (25 points)**

**Mastery Exercise (15 points)**

**Live Classroom (0 points)**

## **Module 6**

### **Readings**

- Chapters 7 & 8 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Liu, X., Loudermilk, B., & Simpson, T. (2014). Introduction to sample size choice for confidence intervals based on t statistics. *Measurement in Physical Education & Exercise Science*, 18(2), 91-100. doi:10.1080/1091367X.2013.864657
- Singh, A., Lucas, A. F., Dalpatadu, R. J., & Murphy, D. J. (2013). Casino games and the central limit theorem. *UNLV Gaming Research & Review Journal*, 17(2), 45-61.

**Opening Exercise (0 points)**

**Discussion (25 points)**

**Mastery Exercise (15 points)**

**Critical Thinking (60 points)**

Choose **one** of the following two assignments to complete this week. Do *not* complete both assignments. Identify your assignment choice in the title of your submission.

### **Option #1: Springdale Shopping Survey**

#### **Instructions**

The major shopping areas in the community of Springdale include Springdale Mall, West Mall, and the downtown area on Main Street. A telephone survey has been conducted to identify strengths and weaknesses of these areas and to find out how they fit into the shopping activities of local residents. The 150 respondents were also asked to provide information about themselves and their shopping habits. The data are provided in the file SHOPPING. The variables in the survey can be found in the file CODING.

In this exercise, some of the estimation techniques presented in the module will be applied to the Springfield Shopping survey results. You may assume that these respondents represent a simple random sample of all potential respondents within the community, and that the population is large enough that application of the finite population correction would not make an appreciable difference in the results.

Managers associated with shopping areas like these find it useful to have point estimates regarding variables describing the characteristics and behaviors of their customers. In addition, it is helpful for them to have some idea as to the likely accuracy of these estimates. Therein lies the benefit of the techniques presented in this module and applied here.

1. Item C in the description of the data collection instrument lists variables 7, 8, and 9, which represent the respondent's general attitude toward each of the three shopping areas. Each of these variables has numerically equal distances between the possible responses, and for purposes of analysis they may be considered to be of the interval scale of measurement.
  - A. Determine the point estimate, and then construct the 95% confidence interval for  $\mu_7$  = the average attitude toward Springdale Mall.
  - B. Repeat part (a) for  $\mu_8$  and  $\mu_9$ , the average attitudes toward Downtown and West Mall, respectively.
2. Given the breakdown of responses for variable 26 (sex of respondent), determine the point estimate and then construct the 95% confidence interval for  $p_{26}$  = the population proportion of males.
3. Given the breakdown of responses for variable 28 (marital status of respondent), determine the point estimate and then construct the 95% confidence interval for  $p_{28}$  = the population proportion in the "single or other" category.
4. Assume the managers have requested estimates of the mean attitudes towards each mall with a margin of error of 0.05 for each. If the managers want to have 95% confidence that the sample mean will fall within this margin of error, how large should the sample size be for each mall?

### **Paper Requirements**

Write a report that uses the *Written Assignment Requirements* under the heading *Expectations for CSU-Global Written Assignments* found in the CSU-Global Guide to Writing and APA. Items that should be included, at a minimum, are a title page, an introduction, a body that answers the questions posed in the problem, and a conclusion paragraph that addresses your findings and what you have determined from the data and your analysis. As with all written assignments, you should have in-text citations and a reference page. Please include any tables of calculations, calculated values, and graphs associated with this problem in the body of your assignment response.

Note: You *must* submit your Excel file with your report. This will aid in grading with partial credit if errors are found in the report.

### **Option #2: New York Survey Data**

#### **Instructions**

A consulting firm was hired to perform a survey on people living in New York City. The survey was completed monthly for six months by 445 randomly-selected people in different boroughs. There were a number of items on the survey, but six basic biographical items will be studied for this exercise. The data for the people surveyed in one of these monthly surveys can be found in the Excel file [SURVEY](#). The variables that were used for the basic biographical data are found on the last page of the exercise.

In this exercise, some of the estimation techniques presented in the module will be applied to the New York survey results. You may assume that these respondents represent a simple random sample of all

potential respondents within the community, and that the population is large enough that application of the finite population correction would not make an appreciable difference in the results.

New York City governmental agency personnel like to have point estimates regarding variables describing the biographical information of the people living within the different boroughs. It is very helpful for them to have some idea regarding the likely accuracy of these estimates as well. Therein lies the benefit of the techniques presented in this module and applied here.

1. Item A in the description of the data collection instrument lists variables 1–5, which represent the respondent’s general attitude toward each of the five boroughs. Each of these variables has numerically equal distances between the possible responses, and for purposes of analysis they may be considered to be of the interval scale of measurement.
  - A. Determine the point estimate, and then construct the 95% confidence interval for  $\mu_1$  = the average attitude toward Manhattan.
  - B. Repeat part (a) for  $\mu_2$  through  $\mu_5$ , the average attitudes toward Brooklyn, Queens, The Bronx and Staten Island, respectively.
2. Given the breakdown of responses for variable 6 (highest level of education), determine the point estimate, and then construct the 95% confidence interval for  $p_6$  = the population proportion of doctoral degrees.
3. Given the breakdown of responses for variable 7 (marital status of respondent), determine the point estimate, and then construct the 95% confidence interval for  $p_7$  = the population proportion in the “single or other” category.
4. Assume the governmental agencies requested estimates of the mean attitudes towards each borough with a margin of error of 0.05 for each borough. If the governmental agency personnel want to have 95% confidence that the sample mean will fall within this margin of error, how large should the sample sizes be for each borough?

### Paper Requirements

Write a report that uses the *Written Assignment Requirements* under the heading *Expectations for CSU-Global Written Assignments* found in the CSU-Global Guide to Writing and APA. Items that should be included, at a minimum, are a title page, an introduction, a body that answers the questions posed in the problem, and a conclusion paragraph that addresses your findings and what you have determined from the data and your analysis. As with all written assignments, you should have in-text citations and a reference page. Please include any tables of calculations, calculated values, and graphs associated with this problem in the body of your assignment response.

Note: You *must* submit your Excel file with your report. This will aid in grading with partial credit if errors are found in the report.

#### A. General Attitude toward Each Borough (Variables 1–5)

	1. Manhatta n	2. Brooklyn	3. Queen s	4. The Bronx	5. Staten Island
Like Very Much	(5)	(5)	(5)	(5)	(5)
Like	(4)	(4)	(4)	(4)	(4)

Neutral	(3)	(3)	(3)	(3)	(3)
Dislike	(2)	(2)	(2)	(2)	(2)
Dislike Very Much	(1)	(1)	(1)	(1)	(1)

## B. Information about the Respondent (Variables 6–7)

1. What is your highest level of education?

- (1) = Did not complete high school
- (2) = High school degree/GED
- (3) = Associate's degree
- (4) = Bachelor's degree
- (5) = Master's degree
- (6) = Doctoral degree

Marital Status: (1) = Married, (2) = Single or other

## Module 7

### Readings

- Chapter 9 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Funaru, M. (2014). Attitudes, opinions and behavior of managers on application of ecological marketing in their business – testing hypotheses – case study: Braşov County. *Bulletin of The Transilvania University Of Brasov. Series V: Economic Sciences*, 7(1), 53-58.
- Ludbrook, J. (2013). Should we use one-sided or two-sided P values in tests of significance? *Clinical & Experimental Pharmacology & Physiology*, 40(6), 357-361. doi:10.1111/1440-1681.12086

**Opening Exercise (0 points)**

**Discussion (25 points)**

**Mastery Exercise (15 points)**

**Live Classroom (0 points)**

## Module 8

### Readings

- Chapter 12 in *Essentials of modern business statistics: With Microsoft Office Excel*
- Quinino, R. C., Reis, E. A., & Bessegato, L. F. (2013). Using the coefficient of determination R<sup>2</sup> to test the significance of multiple linear regression. *Teaching Statistics*, 35(2), 84-88. doi:10.1111/j.1467-9639.2012.00525.x
- Srigiri, S., Madasu, H., Vysetti, B., & Parth, V. (2014). Forecasting the distribution of heavy metals in soil and groundwater near municipal solid waste dumpsites using linear regression. *Current Science* (00113891), 107(1), 78-88.

**Opening Exercise (0 points)**

**Discussion (25 points)**

**Mastery Exercise (15 points)**

**Final Exam (250 points)**

This week you have a final exam. Take advantage of the practice exam to prepare for this exam. You are given three attempts at the practice final exam. Between each attempt, you may wish to return to

MindTap to review any of materials from the class for which you have questions. When you are ready, complete the final exam. You are given only one attempt at this exam. Good luck!

<b>Grading Scale</b>	
A	95.0 – 100
A-	90.0 – 94.9
B+	86.7 – 89.9
B	83.3 – 86.6
B-	80.0 – 83.2
C+	75.0 – 79.9
C	70.0 – 74.9
D	60.0 – 69.9

F	59.9 or below
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## COURSE POLICIES

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### Course Grading

- 20% Discussion Participation
- 0% Opening Exercises
- 0% Live Classroom
- 12% Mastery Exercises
- 18% Critical Thinking Assignments
- 25% Midterm Exam
- 25% Final Portfolio Project

SAMPLE

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## IN-CLASSROOM POLICIES

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For information on late work and incomplete grade policies, please refer to our [In-Classroom Student Policies and Guidelines](#) or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

### Academic Integrity

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work (see *CSU-Global Guide to Writing and APA Requirements* for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

### Citing Sources with APA Style

All students are expected to follow the *CSU-Global Guide to Writing and APA Requirements* when citing in APA (based on the APA Style Manual, 6th edition) for all assignments. For details on CSU-Global APA style, please review the APA resources within the CSU-Global Library under the “APA Guide & Resources” link. A link to this document should also be provided within most assignment descriptions in your course.

### Disability Services Statement

CSU-Global is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Disability Resource Coordinator at 720-279-0650 and/or email [ada@CSUGlobal.edu](mailto:ada@CSUGlobal.edu) for additional information to coordinate reasonable accommodations for students with documented disabilities.

### Netiquette

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom. If you have concerns about something that has been said, please let your instructor know.