

Northeastern University – D’amore McKim School of Business
MGSC 2301: Business Statistics – Summer 1 2026

This syllabus operates as our document of mutual understanding; it represents our agreement. Changes may be made to it as our progress dictates. Any changes will be presented to the entire class and class members will be responsible for all changes.

Instructor Information

Name: Prof. Dee Spencer
E-mail: d.spencer@northeastern.edu
Office: 319 Hayden Hall
Office Hours: Mondays 11:30- 1:00pm via Zoom

Course Overview

The objectives of this course are:

- To provide you with an understanding of statistical methods and techniques and their usefulness in the decision-making process.
- To expose you to the methods of descriptive, inferential statistics and regression analysis; and how they can be used to solve business problems.
- To improve upon your data analysis and computer skills.
- To provide you with the necessary tools for critical evaluation, correct interpretation, and presentation of the results of statistical analyses.

Required Textbook and Software

- Statistics for Business and Economics. Author: Anderson, Sweeney, Williams, Camm and Cochran
Publisher: Cengage. **Online Access is Required**
- SPSS & Excel

Course Organization

- This is a course in a flexible online environment.
 - Please note that this is an accelerated course: we will be covering 2 weeks-worth of material during every week.
 - The course web page is the Canvas system. Course materials and announcements will be posted on the course site.
 - The textbook is quite easy to read and covers a lot of ground. However, some of the topics are not covered in depth. Information posted in the modules will fill these gaps.
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Course Policies

- You are expected to read through the assigned chapters and familiarize yourself with the content.
- To maximize your learning, you should complete homework assignments consistently throughout the week, as each topic is presented.
- I will hold weekly office hours via zoom.
- Anyone caught cheating will be dismissed from the course immediately with a grade of F.
- Essential to the mission of Northeastern University is the commitment to the principles of intellectual honesty and integrity. You agree that any taking of exams, papers, presentations, overall conduct, etc., you will uphold University policy as it pertains to maintaining intellectual integrity and avoiding all forms of academic dishonesty.

Note

If you have any technical issues, it is important you contact the proper Help channels. Please plan properly when you have deliverables to make sure that if there is a problem with the technology aspect, there is enough time to fix it.

- Northeastern's IT Help Desk 617.373.4357 and/or help@northeastern.edu
- LockDown Browser has "Help Center" button located on the toolbar.
- Canvas Support Live Chat (in the help option in the toolbar) or call (1-833-450-3937).

Deliverables Summary

- Homework: 26%
- Data Analysis Project: 20%
- Exam 1: 18%
- Exam 2: 18%
- Exam 3: 18%

Homework Assignments (26% of Overall Grade)

- Regular homework assignments will ensure that you stay caught up on all the concepts.
- Each homework assignment has a different point value. Your homework weighted average will be worth 20% of your overall grade.
- There are multiple places to find the homework assignments and due dates on Canvas:
The easiest way to see them all in one place is to click the Module for the textbook entitled, "Anderson Statistics for Business and Economics Revised 13e MindTap." Note: You must purchase the online textbook to complete the homework assignments. Once you have loaded the textbook, click on the link called "Homework Assignments for Credit." There, you will see all the online homework assignments and the due dates. Homework due dates are also listed in the file entitled "Daily Schedule of Material and Due Dates 2026 Summer 1 Online" in the Due Dates Module. Homework Due Dates are also listed under "Assignments" in the menu along the left-hand side of Canvas.

- To be fair to those working hard to stay on top of the material, homework assignments will not be accepted late, regardless of circumstances.
 - ✓ For each assignment, you will be afforded 4 opportunities to complete the problems. Your best answer will be selected.
 - ✓ Homework assignments must be submitted electronically on or before **11:30pm (EST)** on the “due date.”
 - ✓ There will be **no exceptions** to this policy. Please do not ask me to make a special exception for you. I will not do for one student what I would not do for all students. Non-submission of homework counts as a zero score.

Data Analysis Project (20% of Overall Grade)

- Details of the Data Analysis Project are delineated in the Data Analysis Project Description document on Canvas, in the Welcome Module and again, in the Chapter 14 Module.
- The project is broken down into 4 assignments that you will complete throughout the semester. Assignments 1-3 are each worth 10 points. Assignment 4 is worth 20 points. Your weighted average for the Data Analysis Project is worth 20% of your overall grade.
- To be fair to those working hard to stay on top of the material, Data Analysis Project Assignments will not be accepted late, regardless of circumstances.
 - ✓ Each Data Analysis Project Assignment must be submitted electronically on or before **5:00pm (EST)** on the “due date.”
 - ✓ There will be **no exceptions** to this policy. Please do not ask me to make a special exception for you. I will not do for one student what I would not do for all students. Non-submission of a Data Analysis Project Assignment counts as a zero score.

Examinations (54% of Overall grade)

- There will be three non-cumulative exams. Each exam will be worth 18% of your overall grade.
 - You cannot take an exam without the LockDown Browser and Webcam installed.
 - Each exam is taken online via Canvas.
 - Any material covered in class lectures, videos, and chapter readings is fair game for exams.
 - The tests are set up so to challenge your critical thinking skills. They are thought-provoking.
 - You will be provided with a formula sheet (by the instructor) and the necessary tables.
 - If you miss an exam without proper notification prior to the scheduled date, you will not be allowed to make up the exam and will receive a zero.
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TAKING TESTS: IMPORTANT!!

NU Canvas utilizes the **LockDown Browser + Webcam Requirement** for exams.

You cannot take a test without LockDown Browser and Webcam installation and use during the exam.

Watch this brief video to get a basic understanding of LockDown Browser and the webcam feature.

<https://www.respondus.com/products/lockdown-browser/student-movie.shtml>

Download Instructions Download and install LockDown Browser from this link:

<https://download.respondus.com/lockdown/download.php?id=538439877>

Once Installed

Start LockDown Browser → Log into to Canvas → Navigate to the Test

Note: You will not be able to access a test that requires LockDown Browser with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the exam to continue.

Guidelines When taking an online test, follow these guidelines:

- Once you begin the Test you must remain seated with no interruptions until completed.
- Ensure you're in a location where you won't be interrupted.
- Turn off your phone and store out of sight.
- You are forbidden from accessing all other devices (tablets, chats, internet, 2nd computer).
- No use of notes of any kind (copy of PowerPoint slides, personal notes textbook, etc.).
- Communication with any other student regarding the test is strictly forbidden.
- Before starting, know how much time is available, and allocate sufficient time to complete it.
- **Verify the area around you is completely clear. Click "Start Recording" and slowly tilt/pan your webcam so a brief video can be made of the area around your computer. Click "Stop Recording" when you have finished the test.**
- Before the test begins, as you are scanning your work area with your webcam, show both sides of your work area and then **at the end of the exam show your work area again, before you submit.**
- Remain at your computer for the duration of the test.
- If the computer, Wi-Fi, or location is different than what was used previously with the "Webcam Check" and "System & Network Check" in LockDown Browser, run the checks again prior to the test.
- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted.

Getting Help:

Several resources are available if you encounter problems with LockDown Browser:

- Windows & Mac: LockDown Browser has a "Help Center" button located on the toolbar.
- Use the "System & Network Check" to troubleshoot issues. All tests require using a webcam, so also run the "Webcam Check" from this area.
- Respondus has a Knowledge Base available from support.respondus.com. Select the "Knowledge Base" link and then select "Respondus LockDown Browser" as the product. If your problem is with a webcam, select "Respondus Monitor" as your product

- Northeastern's IT Help Desk 617.373.4357 (x HELP) and/or help@northeastern.edu

If you are still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it.

ALL DELIVERABLES

Due Date	Deliverable	Time Due
5/6	Complete Review of Canvas Materials. Download Excel & SPSS	11:30 PM EST
5/7	Mindtap 1 & Mindtap 2	11:30 PM EST
5/8	Mindtap 4	11:30 PM EST
5/11	Mindtap 6	11:30 PM EST
5/12	Mindtap 7	11:30 PM EST
5/13	Mindtap 8	11:30 PM EST
5/15	Exam 1	7:00 PM EST
5/18	Data Analysis Assignment 1 (Project Proposal)	5:00 PM EST
5/18	Mindtap 9	11:30 PM EST
5/19	Mindtap 10	11:30 PM EST
5/20	Mindtap 11	11:30 PM EST
5/21	Mindtap 12	11:30 PM EST
5/22	Mindtap 13	11:30 PM EST
5/25	<i>Memorial Day</i>	<i>11:30 PM EST</i>
5/26	Data Analysis Assignment 2 (Data Collection)	5:00 PM EST
5/27	Mindtap 14 & 15	11:30 PM EST
5/28	Mindtap 16	11:30 PM EST
5/29	Exam 2	7:00 PM EST
6/1	Mindtap 17	11:30 PM EST
6/2	Mindtap 18	11:30 PM EST
6/3	Mindtap 19	11:30 PM EST
6/4	Mindtap 20	11:30 PM EST
6/5	Mindtap 21	11:30 PM EST
6/9	Data Analysis Assignment 3 (Summary Statistics)	5:00 PM EST
6/12	Exam 3	7:00 PM EST
6/18	Data Analysis Assignment 4 (Final Report)	5:00 PM EST

DELIVERABLES BY CATEGORY

Exam Dates: You may take the Exams Any Time Between 7:00am EST and 7:00pm EST
5/15: Exam 1
5/29: Exam 2
6/12: Exam 3
Project Due Dates: Due by 5:00pm EST
5/18: Data Analysis Assignment 1 (Project Proposal) Due by 5 pm (EST)
5/26: Data Analysis Assignment 2 (Data Collection Results) Due by 5 pm (EST)
6/09: Data Analysis Assignment 3 (Present Summary Statistics) Due by 5 pm (EST)
6/18: Data Analysis Assignment 4 (Present Final Report) Due by 5 pm (EST)
Homework Due Dates: Due by 11:30pm EST
5/6: Complete Review of Canvas Materials. Download Excel & SPSS
5/7: Mindtap 1 & Mindtap 2
5/8: Mindtap 4
5/11: Mindtap 6
5/12: Mindtap 7
5/13: Mindtap 8
5/18: Mindtap 9
5/19: Mindtap 10
5/20: Mindtap 11
5/21: Mindtap 12
5/22: Mindtap 13
5/27: Mindtap 14 & 15
5/28: Mindtap 16
6/1: Mindtap 17
6/2: Mindtap 18
6/3: Mindtap 19
6/4: Mindtap 20
6/5: Mindtap 21

Topic and Readings
Course introduction and objectives; applications of statistics in business and economics; data measurement (nominal, ordinal, interval and ratio) and types of variables (quantitative and qualitative); cross-sectional and time series data; data sources. Sections 1.1-1.3
Statistical terminology: population parameter and sample statistics. Tabular and Graphical Presentations. Summarizing qualitative and quantitative data. Scatter diagram. Sections 1.4 and 1.5. Sections 2.1, 2.2, and 2.4 (only scatter diagram)
Measures of central tendency: Mode, Median, and Mean. Measures of location: quartiles and percentiles. Measures of dispersion (variability): range, interquartile range, variance and standard deviation; coefficient of variation. Measures of distribution shape. Chapter 3: Sections 3.1, 3.2 and 3.3 (skip section "z-Scores").
Measures of distribution shape and Boxplot. Introduction to probability. Random variables; discrete probability distributions; expected value and variance. Chapter 3: Sections 3.3 and 3.4. Lecture notes. Chapter 4: Sections 4.1, 4.2
Normal probability distribution. Chapter 6 (section 6.2)
Exam 1
Continue normal distribution. Non-probability and probability sampling; simple random samples; sampling distribution of the mean and the proportion. Chapter 7: Sections 7.1-7.8. Lecture notes
Confidence interval for a population mean -- use of the normal and the t distribution, determination, and interpretation of the margin of error. Chapter 8: Sections 8.1-8.2. Lecture notes
Sample size considerations when estimating a population mean. Confidence interval for the population proportion. Sample size determination and margin of error. Illustrative examples. Chapter 8, Sections 8.3-8.4. Lecture notes.
Hypothesis testing for a population mean. One- and two- sided tests of significance; Type I / Type II errors. Readings: Sections 9.1-9.3
Hypothesis testing for a population mean continued. Use and interpretation of p-values. Tests of hypotheses involving the population proportion. Sections 9.3-9.5. Lecture notes
Exam 2
Tests involving the differences between two population means. Chapter 10: Sections 10.1-10.3. Lecture notes.
Introduction to correlation analysis and simple linear regression. Determining the equation of the regression line. Model assumptions and residual analysis. Chapter 3: Section 3.5. Chapter 14: Sections 14.1-14.4 and 14.8. Lecture notes.
Simple linear regression analysis continued. Interpretation and calculation of regression coefficients. Tests of significance. Prediction and confidence intervals. R^2 values. Chapter 14: Sections 14.4-14.8. Lecture notes.
Exam 3
Multiple regression, interpretation and calculation of regression coefficients, model assumptions, tests of significance, R^2 values. ANOVA. TRACE Course Evaluation