MGT 2250 Syllabus

Management Statistics, Section O, 3 Credits,

Summer 2026

Instructor Information

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General Course Information

Description

Every student in this class is welcome and supported. The instructor is committed to creating a learning environment that values and supports a variety of perspectives, thoughts, and experiences.
During the semester, we will learn how to apply statistical concepts and methods for the practical analysis of management decisions for a variety of areas: finance, banking, marketing, advertising, operations, real estate, accounting, and human resources. We will use case studies based on realistic business situations using real data. The e-learning and online assessment system MyLab Statistics will be used on this course.

The course is divided into four modules: Variation, Probability, Inference, and Regression. The first module "Variation" introduces basic terminology, summary statistics, and graphical summaries. The second module "Probability" presents the concept of a random variable (idealized description of the data in applications). The third module "Inference" covers statistical inference (the process of inferring properties of an entire population from those of a subset known as a sample). The fourth module "Regression" introduces linear regression models (an important tool in business for assessing profitability, setting prices, identifying anomalies, and generating forecasts).

Course Learning Outcomes

Upon successful completion of MGT 2250: Management Statistics, students will be able to:

1. Organize and prepare business data by distinguishing variable types, structuring datasets appropriately, and recognizing common data formats used in statistical analysis.
2. Summarize and visualize data using descriptive statistics and graphical tools in Excel, including frequency tables, charts, histograms, and boxplots, in order to identify patterns, variability, and unusual observations.
3. Analyze relationships among variables by interpreting associations between categorical and quantitative variables and explaining the difference between association and causation.
4. Apply probability concepts and probability models to describe uncertainty, calculate expected values, and interpret normal distributions in business and management contexts.
5. Use sampling and inferential methods to draw conclusions about populations from sample data, including distinguishing between parameters and statistics and explaining sampling error.
6. Construct and interpret confidence intervals for means and proportions and explain how confidence level, sample size, and variability affect statistical estimates.
7. Perform and interpret hypothesis tests for means and proportions, including stating null and alternative hypotheses, interpreting p-values, and explaining Type I and Type II errors in context.
8. Develop and interpret simple linear regression models to evaluate relationships, assess model fit, generate predictions, and support data-driven business decisions.
9. Use Excel to conduct statistical analysis, visualize results, and communicate findings clearly in practical business applications.

10. Communicate statistical results effectively in written, visual, and presentation formats to support managerial decision-making.

Required Course Materials

Text: Statistics for Business: Decision Making and Analysis, Robert Stine & Dean Foster, 3rd Edition. Publisher: Pearson, ISBN: 9780321921772. Microsoft Excel is required for every class.

Reading Textbook: This course has a textbook, with assigned readings to help you learn what I would have covered in lectures. Reading the textbook will help you to understand all of the statistical concepts and reasoning in our curriculum. This is very important part of your preparations in this course - I expect you to do those reading prior to coming to class so that you can fully engage in learning activities and better understand homework and practice test problems.

Online Format of MGT 2250: All lectures will be asynchronous and posted online for every module on Canvas. You are strongly recommended to watch all lecture videos for a module within the week specified on the syllabus. Each video lecture contains examples and practice questions that I will discuss, and you are expected to follow along and replicate the instructions laid out by me. There are also additional practice questions that will be available to you, as well as the solution to them. The examples and practice questions would help you in better understanding the topic. After watching lecture videos and going through additional practice questions, you should start working on the assignment related to that topic. Students can (and should) consult each other when completing the assignment.
All course content will be online on Canvas. Homework assignments, Test exams, and the final exam will all be online via Canvas and MyLab Statistics.

Grading Policy:

Determination of Grade in Course: Your grade in the course will be based on the following calculation:
(1) The highest 13 out of 14 homework assignments.
(2) The sum of the two highest test scores and the average of all three test scores (see example below)[1].
(3) The sum of the two highest practice test scores.
(4) The final exam and yield a total of **610** points.

1.Homework Assignments 130
2.Tests 300
3.Practice Tests ……40
4.Final Exam……...140
5. Total …….. 610

The letter grade corresponding with your total points earned is as follows:

A: 549 points and above; (90%)
B: 488-548 points. (80%)
C: 427-487 points.(70%)
D: 366-426 points;(60%)
F: 365 points and below

[1]**Example:** Student has the scores 70, 82, and 90 for test 1, test 2, test 3 respectively. The average, therefore, is (70+82+90)/3=80.6.
Based on the syllabus, the lowest score of 70 would be replaced by 80.6. Thus, this student would have

80.6+82+90=252.6 points, NOT 70+82+90=242 points.
Note: requests for extra credit work in pursuit of a higher course grade will be denied.

Description of Graded Components

Honor Code Statement: A signed Honor Code Statement should be uploaded to Canvas during the first weeks of the Summer 2026 term, by the deadline given for students in the Syllabus. A template will be provided to you on Canvas to fill out and upload – this can be found in the Files tab.

Homework: All homework assignments are posted on the MyLab Statistics website and are due by the deadlines specified above. No late homework will be accepted. Students are welcome to work on homework assignments in groups. Cooperation is not only allowed, but encouraged. However, each student must make an individual submission. Emergencies or illness may occur - to account for this, *I will drop the lowest homework score (10 points) at the end of the semester*. Because of this policy, no make-up homework will be permitted.

Practice Tests: For each of Tests 1, 2, and 3 you will have to complete Practice Tests 1, 2 and 3. These Practice Tests will be due at 10:55 AM, the morning of the respective Test.

Tests and Final Exam:

- Each of the Tests and Final Exam require independent work and are taken online at MyStatLab.com.
- Students must use a computer with Excel for every testing period.
- Students must submit their Excel Workbook used for the test for every non-conceptual problem. The submissions are assignments on Canvas.
- Tests are open from 11am to 9 pm on the day of students will have a maximum of 50 minutes after opening the test to complete it.
- Formula sheets will be provided to students every test and are available on Canvas to download.
- No questions will be answered by email during the testing periods.
- **Replacing the Lowest Test Score in the overall grade computation:** I will replace your lowest exam score from Test 1, 2 and 3 with the ***average of all three of your test scores*** when computing your overall grade.

Final Exam: If very important circumstances arise and proper documentation is provided, causing you to miss the final exam, you will receive an incomplete grade for this course. Students are required to take the final test on the day/time it is scheduled. Missing the final exam will result in a grade of 0 for the final exam; there is no make-up.

Course Policies

Academic Integrity: Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Email Communication: I will make every effort to respond to emails received on weekdays within 24 hours of receipt; emails received on weekends and holidays may result in a longer response time. Please include your first and last name as well as the course (e.g., Joan Smith, MGT 2250) in your emails. Use

my regular GT email (trudchenko@gatech.edu) to send me your questions.

Special Accommodations: Any student requesting accommodations because of a disability should be referred to the Office of Disability Services. Once referred, the Disability Services staff will work with that student to arrange for appropriate accommodation. Students will then receive an accommodation letter detailing their necessary accommodation and should plan to meet with each instructor to review this letter. Please obtain a letter from the Office of Disability services and send it to your instructors at the beginning of the semester. The Office of Disability Services is in the Smithgall Student Services Building, Suite 220. The phone number is 404-894-2563. http://disabilityservices.gatech.edu/

Core IMPACTS

This course helps students build career competencies in quantitative reasoning, critical thinking, problem solving, and communication. Through business-focused statistical analysis and Excel-based applications, students learn how to interpret data, make informed decisions, and present results clearly in professional contexts**.**

Student-Faculty Expectations Agreement: At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Pre-or Co-Requisites. MGT 2250 (Management Statistics) at Georgia Tech requires one of the following mathematics prerequisites: MATH 1712, 1501, 15X1, 1550, 1551, or 17X2.

Collaboration, Group Work, and Use of Generative AI: Students are encouraged to use AI as a tool for personal learning, practice, and tutoring. For example, AI may be used to review concepts, receive explanations, ask questions, and support independent study. However, AI may not be used during tests or exams. All tests and exams must reflect your own independent work and understanding. You are welcome to work in groups on homework assignments, but any work you submit must be your own. All tests and exams are closed book and closed notes, although an equation sheet will be provided.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams: Late homework will be penalized accordingly. Make-up exams are given for illness, approved Institute activities or religious observances. Additional rules for tests 1, 2 and 3 and the final exam will be announced by email prior to every test and final exam.