Georgia Tech | Ernest Scheller Jr. College of Business

MGT 2255 - UG: Quantitative Analysis for Business
GT-E Summer 2025 Syllabus (tentative)

Instructor: Prof. Morvarid Rahmani (morvarid.rahmani@scheller.gatech.edu)
Days and Time: Tuesdays and Thursdays 10:25am-12:20pm in GT-E Building
Office Hours: By appointments
Pre-requisites: MGT 2250

COURSE DESCRIPTION

This course focuses on the decision-making processes and strategies that businesses use to optimize outcomes. The course applies quantitative-analytical skills across various areas, including Supply Chain and Operations Management, Information Technology Management, Finance, Marketing, Accounting, and Strategy.

The course takes a managerial rather than a technical perspective, emphasizing the application of decision-making tools and the interpretation of results to guide management actions. This is not a mathematics course; the focus is on understanding the structure and logic of the models rather than their mathematical details or proofs. Throughout the semester, we will explore how quantitative concepts and techniques are applied in practice, using Microsoft Excel for examples and assignments.

Learning Objectives:
Upon successful completion of this course, you should be able to
- Determine the relationship between two or more variables using a regression model and apply the information gathered from the model to real world problems.
- Formulate and solve Linear Programming model for variety of real-world problems.
- Optimize project scheduling – by, for example, using the Critical Path Method.
- Apply Bayesian theory to create the best decision strategy.

Optional Reference Text:
Quantitative Analysis for Management, 14th edition, by Barry Render, Ralph Stair, Michael Hanna, and Trevor Hale, Pearson (ISBN-13: 9780138170851).

Other Materials:
- All course materials will be posted on Canvas. Locate the course by logging in at https://canvas.gatech.edu/.
- All messages will be sent out via Canvas. Please make sure you are checking all messages and taking the appropriate actions.

GRADING

The final grade for this course will be based on your performance on assignments, exams, and a final write-up. We shall weigh these various activities in the following manner.

1. Assignments   40%   (individual)
2. Exams   40%   (individual)
3. Attendance   10%   (individual)
4. Personal Reflection 10%   (individual)

The grading scheme for this course is as follows: A = 90-100; B = 80-89.99; C = 70-79.99; D=60-69.99; and F=below 59.9. Final cumulated scores of the class will be analyzed to determine if an adjustment or curve is necessary. However, a curve will only help you. Therefore, if you have a 90% or more you will get an A in the class. I won't curve to raise the minimum requirements for grades, only lower them if necessary.

Please make re-grading requests for an evaluation component within one week of your receipt of the evaluation.

1. Assignments (40%)

There will be short assignments on Canvas throughout the semester. These can be based on assigned readings or concept covered in class. The goal of these assignments is to help you actively process the class materials and maximize learning. Assignment submissions will be handled on Canvas. Therefore, late submissions will not be possible. Makeup assignments will not be given. However, one lowest score will be dropped from the final grade calculation.

2. Exams (40%)

There will be two exams that will each count towards 20% of your final grade. The exams will evaluate your mastery of basic concepts covered in the course. The exams are open book, open notes, and exclusively individual efforts. Use of cellphones, calculators, and tablets are not permitted during the exam at any time. The exams will be administered on Canvas and will require the use of Excel. Makeup exams will not be given (excused exam absences e.g., health reasons, must be documented).

3. Attendance (10%)

Please arrange your other activities to permit you to attend class. Please always occupy the same position in the classroom (to the extent feasible) and always place your name card/tent in front of you. If you cannot come to a class, you should seek assistance from your classmates to gain a firm grasp of the missed class contents. Two absences are allowed. Excused absences beyond two sessions, e.g., health reasons, must be documented.

4. Personal Reflection (10%)

For this assignment, you should submit a 2-page memo (approximately 800-1000 words) describing in detail how one of the concepts from this course can help you in your current or future job. Please refer to the rubric posted on Canvas. All personal reflections will be shared with the class in a folder on Canvas, so please keep this in mind when writing your reflections.

5. CIOS Incentive (Extra 2 point)

If at least 85% of the class respond to the anonymous CIOS survey at the end of the semester, the whole class will receive extra 2 points for the final grade.

ACADEMIC INTEGRITY

Georgia Tech Honor Code: Students are expected to act and must expect their peers to act according to the school's ethics code. See www.honor.gatech.edu. As a general rule, you are not allowed to use any material from previous years or from people that have taken a related class elsewhere. In case of any doubts, please ask the instructor first. The marking of attendance for anyone other than the person himself/herself constitutes a significant violation of the instructor's and your colleagues' trust and also the honor code.

Diversity and Inclusion: Diversity is a resource, strength, and benefit. As the instructor of this class, I am strongly committed to creating an inclusive, welcoming, and fair learning environment. I respect the diverse views represented by all of you in this class and expect you to do the same. Every student, regardless of personal history, background, or identity category, is a valued member in my classroom. Your experiences and ideas are valuable and important, and you can share them freely and respectfully as they become relevant to our class.

CAMPUS RESOURCES

I recognize that events occurring in the world may impact you on a number of levels, and you may find yourself in need of support. Below are some resources to support you both as a student and as a person.

- The Office of the Dean of Students: http://studentlife.gatech.edu/content/services; 404-894-6367
    - You also may request assistance at https://gatech-advocate.symplicity.com/care_report/index.php/pid383662?
- Counseling Center: http://counseling.gatech.edu; 404-894-2575
    - *Students in crisis may walk in during business hours (8am-5pm, Monday through Friday) or contact the counselor on call after hours at 404-894-2204.*
- The Office of Disability Services: 404-894-2563 or dsinfo@gatech.edu or http://disabilityservices.gatech.edu
- Students' Temporary Assistance and Resources (STAR): http://studentlife.gatech.edu/content/need-help
- Stamps Health Services: https://health.gatech.edu; 404-894-1420
- OMED: Educational Services: http://www.omed.gatech.edu
- Women's Resource Center: http://www.womenscenter.gatech.edu; 404-385-0230
- LGBTQIA Resource Center: http://lgbtqia.gatech.edu/; 404-385-2679
- Veteran's Resource Center: http://veterans.gatech.edu/; 404-385-2067
- Georgia Tech Police; 404-894-2500

We present the tentative course schedule below. This is an approximate schedule, and the pacing may vary during the term. In general, even if the specific date of coverage may change slightly, the order of coverage should remain as presented below. Modifications may be made as the semester progresses and the appropriate changes will be announced on Canvas.

Week	Dates	Tentative Topic	Note
1	05/12-05/16	Course Introduction and Overview	
2	05/19-05/23	Simple Regression	Due: Assignment #1
3	05/26-05/30	Multiple Regression	Due: Assignment #2
4	06/02-06/06	Introduction to Decision Analysis	
5	06/09-06/13	Decisions with Information Updating	Due: Assignment #3
6	06/16-06/20	Review and **Exam #1** on Weeks 1 to 5	In-class. Please bring your laptops
7	06/23-06/27	Introduction to Linear Programming	Due: Course Survey
8	06/30-07/04	Application of Linear Programming	Due: Assignment #4
9	07/07-07/11	Sensitivity Analysis	Due: Assignment #5
10	07/14-07/18	Project Management	Due: Assignment #6
11	07/21-07/25	Forecasting	Due: Assignment #7
12	07/28-07/31	**Exam #2** on Weeks 6 to 11	In-class. Please bring your laptops