OM 375 Syllabus

Business Operations Management and Analytics: Spring 2025

Class meetings: This is an online course, which will be conducted fully online, asynchronously via Canvas.

Instructor Information

Instructor	Email	Office Location & Hours
Gulhan Bizel, PhD, MBA	gulhan.bizel@njit.edu	By appointment, Fridays

*I will respond to all emails/Inbox messages within 24 hours. Quizzes, homework, and discussions will be graded weekly.

General Information

Course Description

This course introduces students to the subject of decision modeling and how to apply decision modeling and process simulation techniques to solving various classes of problems that arise in operational functions in business settings. It covers various decision modeling techniques that range from deterministic to probabilistic models. Topics covered include linear programming and its extensions, simulation, network flow problems, decision analysis, queuing, inventory control, and forecasting. The emphasis in the course is on knowing what modeling skills and techniques to use to answer specific business operation and process questions, the use of computer tools and process simulation techniques (e.g., spreadsheets and simulation tools) to solve problems and on the interpretation and communication of model solutions.

Prerequisites

MGMT 216

Course Learning Outcomes

By the end of the course, students will be able to:

1. Build mathematical decision models for various types of business problems.
2. Use spreadsheets and other software tools to solve decision models of typical business problems.
3. Identify modeling and solution techniques most suitable to solve different classes of decision problems.
4. Interpret and communicate the results of decision models.

Required Materials

Book: Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Business Analytics (ISBN-13: 9780357691076) Author: Cliff Ragsdale, Cengage, 8th Edition

eBook: Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Business Analytics (ebook: ISBN-10: 0357691075) Author: Cliff Ragsdale, Cengage, 8th Edition

Grading Policy

NJIT Grading Legend

Final Grade Calculation

Final grades for all assignments will be based on the following percentages:

7 Quizzes	**20%**
Class Participation / 8 Online Discussion Forums	**20%**
Homework / 7 Assignments	**30%**
Exam (1 Final Exam= 30%)	**30%**

Course Work

Quizzes: (20% of grade) There will be frequent multiple choice quizzes throughout the course. They are meant to help you practice course concepts and prepare for the exams.

Class participation / Discussions: (20% of grade) Students are expected to participate in weekly discussion forums in Canvas. When all students participate in a discussion, it creates an active learning environment that will help you better understand the materials and be more successful in the class. Students will post their initial response to the prompt by Wednesdays at 11:59pm, and respond to two classmates by following Monday at 11:59pm of the week they are listed.

Homework: (30% of grade) Homework assignments will be given to give students an opportunity to apply course concepts for that week. Similar to quizzes, the homework is designed to help students practice and prepare for the exams.

Exam: (**30% of grade**) Final exam will be summative to that point in the semester. Exams will include some multiple choice questions, but will mostly be open-ended problems for students to solve on their own and show their work. Exams will be proctored as per the policy listed in the section below.

Feedback

I will deliver feedback on each assignment using the comments feature in Canvas. Students will receive grades within a week after the due date of submission. Feedback and grades for the Final exam will be given within 48 hours.

Letter to Number Grade Conversions

A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D	65-69
F	0-64

Exam Information and Policies

Final Exam: 2.5 hours

Policy for Make-Up Exams: Other than for health, emergencies and other serious circumstances beyond the student's control, make-up tests / exams will not be given. However, any person seeking a make-up test must show evidence to support his/her claim for not being able to take the test at the regularly scheduled time. Such evidence might be a doctor's report, obituary with the student listed as a survivor, or police report to name a few.

Proctoring Policy:

- This course will use the Respondus LockDown Browser and Monitor proctoring solution. For more information on this, see "Proctoring: LockDown Browser" in the first module in this course.

Policy for Late Work

Late work for quizzes and assignments will be collected within 2 weeks after the due date with a different policy applied. For first late week submission evaluation the starting point will be -20% and for the second week of submission -50%. No late submission accepted for online discussions.

Academic Integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the NJIT academic code of integrity policy.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

Netiquette

Throughout this course, students are expected to be courteous of classmates by being a polite, active participant. Students should respond to discussion forum assignments in a timely manner so classmates have adequate time to respond to your post. Respect opinions, even those that differ from your own and avoid using profanity or offensive language. Please refer to the NJIT Student Code of Conduct.

Weekly Expectations

This course is organized by weekly modules. Modules will be open every week on Monday at 7am EDT/EST. Each week, students must watch a lecture video, complete a reading assignment, and participate in a class discussion forum by making an initial post by Wednesday at 11:59 PM and replies to at least two students by following Monday at 11:59pm. All quizzes and assignments are due by Monday nights at 11:59 PM. Each week, students must work through one module, as this is an accelerated course spanning 7 weeks with a final exam.

Course Schedule

Module	Topic	Reading,Assignment & Quiz Due Dates Monday at 11:59pm	Discussion Due Dates 11:59pm
1	Introduction to Modeling & Decision Analysis (Chapter 1)	Due date: 3/24 ● Assignment 1 ● Quiz 1	**Student Introduction** Post: Monday, 9/9, 11:59 PM **Discussion 1** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)
2	Introduction to Optimization and Linear Programming Modeling and Solving LP Problems in a Spreadsheet (Chapters 2 & 3)	Due date: 3/31 ● Assignment 2 ● Quiz 2	**Discussion 2** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)
3	Linear Programming Sensitivity Analysis and Transportation, Assignment, and Network Models (Chapters 4 & 5)	Due date: 4/7 ● Assignment 3 ● Quiz 3 I	**Discussion 3** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)
4	Integer Linear Programming Models (Chapter 6)	Due date: 4/14 ● Assignment 4 ● Quiz 4	**Discussion 4** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)
5	Nonlinear Programming Models and Data Mining (Chapters 8 & 10)	Due date: 4/21 ● Assignment 5 ● Quiz 5	**Discussion 5** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)
6	Decision Analysis (Chapter 14)	Due date: 4/28 ● Assignment 6 ● Quiz 6	**Discussion 6** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)

7	Time Series Forecasting Introduction to Simulation (Chapters 11 & 12)	Due date: 5/5 • Assignment 7 • Quiz 7	**Discussion 7** Initial Post: (Wednesday, 11:59 pm) Replies:(Monday, 11:59pm)
8 **(5/11)**	Final Exam May 11-13 - 7 AM - 11:59 PM (2.5 hours)		

Additional Information and Resources

Canvas Accessibility Statement

Requesting Accommodations:

If you are in need of accommodations due to a disability please contact Scott Janz, Associate Director of the Office of Accessibility Resources & Services (OARS). Kupfrian Hall 201 to discuss your specific needs. A Letter of Accommodation Eligibility from the office authorizing student accommodations is required.

General Resources for NJIT Students (including technical support)