OPM 3500 Syllabus
Business Decision Models

Semester	Spring 2025
Course & Section	OPM 3500 FMWA
Class Days/Times	Monday (In Person) 4:10PM - 5:25PM Wednesday (In Person) 4:10PM - 5:25PM
Classroom	B - Vert 8-150
Instructor	Dr. Yen-Ming Lee
Email	yen-ming.lee@baruch.cuny.edu
Office Hours	Monday 12:30PM – 1:30PM or by appointment
Teaching Assistant	TBD
Email	TBD
Office Hours	TBD

DESCRIPTION

This is a first course in prescriptive analytics for aiding decision-making in management. Primary emphasis is upon development of the concepts and criteria used in making decisions and the use of the model-building approach. Students will learn various management science modeling techniques such as optimization, decision-making under risk and uncertainty, and computer simulation, including their structure, solution characteristics, applicability, and limitations. Examples will be drawn from a wide variety of business decisions including strategy, operations, marketing, finance, and government policy. The material is approached from a managerial rather than technical perspective, with a focus on the application of decision analytics, and the interpretation of model outcomes for guiding management action. Spreadsheet model building is emphasized throughout the course.

COURSE LEARNING GOALS

Upon completing OPM 3500, a student will be able to do the following:

1. Identify the core structure of a decision/planning problem and employ prescriptive analytics and a structured approach to problem-solving in management situations.
2. Construct and optimize computer spreadsheet models to analyze a wide array of business planning and decision problems and interpret and perform sensitivity analysis on model outputs for guiding management action.
3. Assess uncertainty and risk in managerial decision-making.
4. Frame decisions that involve multiple stakeholders with multiple objectives and evaluate trade-offs in managerial decision-making.
5. Understand the role of computer simulation, and develop simple simulation models to describe, to analyze and improve a system, and to aid business decision-making.

TEXTBOOKS & MATERIALS

Lecture Slides/Handouts: Will be posted on Brightspace.

Recommended Textbooks:

1. *Introduction to Management Science: A Modeling and Case Studies Approach with Spreadsheets*, 6th ed. by F.S. Hillier & M.S. Hillier (McGraw Hill, 2019).
2. *An introduction to Management Science: Quantitative Approaches to Decision Making*, 16th ed. by J. D. Camm, J. J. Cochran, M. J. Fry, J. W. Ohlmann, D. R. Anderson, D. J. Sweeney, T. A. Williams (Cengage, 2023).
3. *Business Analytics: Data Analysis & Decision Making*, 7th ed. by S. C. Albright, W. L. Winston (Cengage, 2020)

GRADES AND EXPECTATIONS FROM STUDENTS

Overall Expectations

- Come to class prepared and be attentive by participating with questions and comments as well as answering questions. This includes being present and on time.
- Silence your cell phone before class begins. Laptops and tablets may be used for note-taking only. Active attention and engagement are crucial for a successful class, and using devices for email, texting, or internet browsing can be distracting.
- Complete homework assignments on time.
- Be honest on all assignments and exams, and ensure that you prepare the assignments independently.
- Respect your classmates, including their comments and questions.
- Actively contribute to group projects, collaborate effectively with team members, and meet project deadlines.
- Behave in a professional manner and enjoy the learning experience.

Grading

The course is structured around a combination of class lectures, hand-on exercises on quantitative literacy, and individual and group assignments. Students are expected to read the assigned readings in advance, submit the assignments on time, and actively participate in classroom. Overall class grades will be based on the following weights:

Category	Weight
Assignments	35%
Class Practice	20%
Midterm Exam	20%
Final Exam	20%
Participation & Attendance	5%
Total	**100%**

I do not curve exam grades, but I may curve the final grades at the end of the semester if necessary. There is NO individual extra credit available.

Final Letter Grade

Accumulated points will be calculated as a percentage and reported as a letter grade using the following scale (source: Baruch College Faculty Handbook).

% of Points Earned	Letter Grade	GPA Value
93.0–100.0	A	4.0
90.0–92.999	A-	3.7
87.0–89.999	B+	3.3
83.0–86.999	B	3.0
80.0–82.999	B-	2.7
77.0–79.999	C+	2.3
73.0–76.999	C	2.0
70.0–72.999	C-	1.7
67.0–69.999	D+	1.3
60.0–66.999	D	1.0
Below 60.0	F	0.0
	WU/WN	0.0
	PEN	0.0

Assignments

Late submissions will not be accepted. Homework will be assigned periodically throughout the semester and posted on Brightspace. Assignments are typically due one week after we finish the associated material. All submissions must be made online via Brightspace. You can submit your work by writing it out and scanning or taking clear pictures, or by creating it electronically.

Class Practice

There will be in-class practice, which may be completed individually or in group settings. These activities are intended to reinforce key concepts discussed during the session and provide hands-on opportunities to apply what you've learned. For individual work, submissions are typically due after the session to ensure timely reflection and application.

Group assignment submissions are typically due by the end of the week and are designed to encourage collaborative learning, teamwork, and the development of communication skills. To receive full credit, you must contribute your fair share. Any disputes will be addressed on a case-by-case basis.

Participation (and Attendance)

Students are expected to attend all classes (both online and in-person at the scheduled times), complete the assigned readings before lectures, and participate actively in class sessions. Attendance and participation are important elements of the course, and simply attending class will not earn you the full participation grade; your grade will be determined by your engagement and meaningful contributions to class discussions.

If a freshman or sophomore is absent in excess of twice the number of class sessions per week, I must give the student a WU grade, which counts as an F. I may give a junior or senior a WU grade (the equivalent of an F) for excessive absences. Please let me know in advance if you can't attend a lecture for a valid reason and include any supporting proof. There is **no need** to contact me for unexcused absences.

Exams

There will be two exams. Exams may consist of multiple choice, True/False, and/or problem-solving questions. All exams will cover material from all aspects of the class sessions (lectures, in-class work, assignments, and so forth). Exams will be mostly about modeling decisions and solving problems. Unless otherwise announced, exams are in-person and open book/ notes.

GENERAL COURSE POLICIES

Exams

- In case of extraordinary circumstances, students who cannot attend an exam must contact the instructor **in advance** and provide a written justification/documentation for their absence.
- The final exam must be taken in the time slot posted in the college bulletin.
- The exams will include materials from both the lecture slides and from the topics covered during our class sessions.
- Behavior during exams is expected to conform to Baruch College guidelines. Any form of cheating or communications with other students or any other incident of improper behavior will be dealt according to the guidelines established by the College.

Work Submission Standards

- Assignments are considered on time only if they are submitted by the due date/time as per the submission guidelines.
- Students must do their work carefully, striving to achieve high quality work. This includes writing clearly, checking the spelling and grammar, proofreading the submissions, and handing in the work on the specified due date.
- Extensions can be granted for situations involving illness, family, or personal emergencies. If you need an extension, you must request one via e-mail **before the due date** of an assignment. No extensions will be granted after the due date.
- For individual assignments, group assignments, and exams, any instance of copying, cheating, or plagiarism **are not tolerated and you will be penalized**. Consequences may range from an F in the specific assignment to an F in the course. In addition, I am required by College policy to submit a report of suspected academic dishonesty to the Office of the Dean of Students. This report becomes part of your permanent file. Please read the section on Academic Integrity.

External Tools Policy

External tools, including AI-based systems, online calculators, writing assistants, and other software, may be used to assist with studying, brainstorming, and understanding concepts. However, they should not replace your own work. Copying and pasting AI-generated content into assignments,

projects, exams, or other graded work is prohibited. Students are expected to demonstrate independent thinking, critically evaluating and producing their own work. Misuse of AI is considered a serious violation of academic integrity and will be treated as plagiarism. Please refer to the Academic Integrity section for more details.

Additional Notes

- Grades will be posted to Brightspace. If you suspect a grading error, notify me within two weeks of the grade posting.
- Let me know about any problems or issues such as missing class, long term illnesses, job related problems, problems with the groups, etc. as soon as possible.

AUDIO & VIDEO RECORDING POLICY

While this is an in-person class, there may be rare occasions when we meet online via Zoom. All online class lectures will be recorded. Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

Student recording of classroom or other academic activities, including advising sessions or office hours, is prohibited unless approved in advance. Using cell phones, cameras, or any other devices to photograph documents distributed in class or to copy information written on the board is not allowed. Unauthorized recording may be a violation of University policy and state law. Students needing assistive technology as an accommodation should contact Student Disability Services. Faculty own the copyright to instructional materials, including syllabi, lectures, lecture notes, and presentations. These materials cannot be copied, reproduced, displayed, or distributed without permission. Students who engage in unauthorized recording, use, or distribution of instructional materials will be referred to the Dean of Students.

STUDENTS WITH DISABILITIES

Students with disabilities may receive assistance and accommodation of various sorts to enable them to participate fully in courses at Baruch. To establish the accommodations appropriate for each student, please alert me to your needs and contact the Office of Services for Students with Disabilities, part of the Division of Student Development and Counseling. For more information, please visit http://www.baruch.cuny.edu/studentaffairs/ossd/disabilityServices.htm.

DIVERSITY & INCLUSION

The classroom is a space where all students should feel respected and included, treated with dignity, civility, and respect. Please engage respectfully with others and value diverse perspectives,

including gender identity, sexual orientation, ethnicity, race, age, neurodiversity, religious beliefs, and socio-economic status. If accommodations are needed or if there are concerns about inclusivity, please contact me.

ACADEMIC INTEGRITY

Baruch College's policy on Academic Honesty states, in part:
"Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the college's educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned."

Cheating and plagiarism are serious offenses. The following definitions are based on the expectations set forth by the City University of New York:

https://studentaffairs.baruch.cuny.edu/wp-content/uploads/sites/6/2024/08/CUNY-Academic-Integrity-Policy-2024.pdf

Cheating is the unauthorized use or attempted use of material, information, notes, study aids, devices, artificial intelligence (AI) systems, or communication during an academic exercise. Examples of cheating include but are not limited to:

- Copying from another person or from a generative AI system or allowing others to copy work submitted for credit or a grade. This includes uploading work or submitting class assignments or exams to third party platforms and websites beyond those assigned for the class, such as commercial homework aggregators, without the proper authorization of a professor. Any use of generative AI tools must be in line with the usage policy for specific assignments as defined in the course of the syllabus and/or communicated by the course instructor.
- Using artificial intelligence tools to generate content for assignments or exams, including but not limited to language models or code generators, without written authorization from the instructor.
- Copying from another student during an exam or allowing another to copy your work
- Unauthorized collaborating on a take home assignment or examination
- Using unauthorized notes during a closed book examination
- Using unauthorized electronic devices during an examination
- Taking an examination for another student
- Asking or allowing another student to take an examination for you
- Changing a corrected exam and returning it for more credit
- Submitting substantial portions of the same paper to two classes without consulting the second instructor
- Preparing answers or writing notes in a blue book (exam booklet) before an examination
- Allowing others to research and write assigned papers including the use of commercial term paper services

Plagiarism is the act of presenting another person's ideas, research or writing as your own, such as:

- Copying another person's or an AI tool's actual words or images without the use of quotation marks and citations attributing the words to their source.
- Presenting another person's ideas or theories in your own words without acknowledging the source.
- Failing to acknowledge collaborators on homework and laboratory assignments.
- Internet plagiarism, including submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, or "cutting & pasting" from various sources without proper attribution.
- Unauthorized use of AI-generated content; or use of AI-generated content, whether in whole or in part, even when paraphrased, without citing the AI as the source.
- **Posting exam or quiz or case questions or assignments, and/or related solutions/answers, or looking up on Chegg and any other similar online site would be an infringement of course and Baruch academic honesty and integrity policy**. Please be aware that Baruch has the capability to track such actions and identify offenders, they have done so in the past.

My policy is to give a failing grade to any assignment that has been plagiarized or an exam in which you have cheated. In addition, I am required by College policy to submit a report of suspected academic dishonesty to the Office of the Dean of Students. This report becomes part of your permanent file.

BBA LEARNING GOALS

The faculty of the Zicklin School of Business has adopted the following "Learning Goals" for BBA students. The purpose of these goals is to create a common understanding between students, faculty and potential employers of the core objectives for a business education. The seven goals, together with assessment criteria, can be viewed at

http://zicklin.baruch.cuny.edu/zk/resources/teaching/aol/undergraduate/bba

The following Zicklin BBA Learning Goals will be addressed in this course:

Course Learning Goals	**BBA Learning Goals**
Analytical Skills	Students will use quantitative and analytic methods to develop solutions to business problems.
Technology and Data Literacy	Students will use data and technology to enable and support business.
Communication Skills: Oral	Students will speak clearly, professionally, and persuasively.
Communication Skills: Written	Students will write clearly, professionally, and persuasively.
Ethical Decision-making and Civic Awareness	Students will identify, analyze, and address ethical and societal issues in business.
Global Awareness	Students will identify, analyze, and address global issues in business.
Proficiency in a Single Discipline	Students will demonstrate competence in at least one business discipline.

ASSURANCE OF LEARNING

The course requirements align with the BBA learning goals as follows.

Components	Course Learning Goals	BBA Learning Goals
Assignments	• Understand and identify the fundamental structure of decision and planning problems, applying analytics and structured problem-solving techniques in management scenarios. • Utilize MS Excel to build and analyze spreadsheet models for a variety of business planning and decision-making challenges, and interpret the results to guide managerial actions. • Evaluate uncertainty and risk, frame decisions involving multiple stakeholders and objectives, and assess alternatives in managerial decision-making. • Comprehend the role of computer simulation and develop basic simulation models to describe, analyze, and improve systems, supporting informed business decisions.	• Analytical Skills • Technological Skills • Written Communication • Proficiency in a Single Discipline
Midterm & Final Exams	• Show a clear understanding of the main concepts and ideas from the course. • Use problem-solving methods learned in class to answer exam questions. • Analyze information or scenarios given in the exam and provide well-thought-out answers. • Combine knowledge from different parts of the course to tackle more complex questions. • Manage your time well to complete all exam questions effectively.	• Analytical Skills • Written Communication • Proficiency in a Single Discipline
Participation & Discussion	• Actively participate in class discussions to better understand the course material. • Clearly express and support your ideas during discussions. • Think critically by considering and responding to others' viewpoints. • Improve teamwork by working effectively in group discussions. • Listen to others and use their feedback to improve your own understanding.	• Analytical Skills • Technological Skills • Oral Communication • Civic Awareness & Ethical Decision-making • Global Awareness • Proficiency in a Single Discipline
Class Practice	• Interpret and communicate quantitative information effectively through clear results. • Clearly explain the main concepts and outcomes of group in-class practice in a well-organized manner. • Use data and evidence to substantiate conclusions during group discussions and activities.	• Analytical Skills • Technological Skills • Written Communication • Oral Communication • Proficiency in a Single Discipline

	• Develop communication skills that effectively convey key points from group in-class practice. • Collaborate effectively with team members.	• Civic Awareness & Ethical Decision-making • Global Awareness

BBA Learning Goals	**Significant Part of Course**	**Moderate Part of Course**	**Minimal Part of Course**	**Not Part of Course**
Analytical Skills	X			
Technology and Data Literacy	X			
Communication Skills: Oral		X		
Communication Skills: Written	X			
Civic Awareness and Ethical Decision-Making			X	
Global Awareness			X	
Proficiency in a Single Discipline	X			

CLASS SCHEDULE OVERVIEW

#	Day	Date	Topics	H&H 6e	
1	Mon	1/27	Syllabus; Introduction to modeling business decisions	Ch 1, 2, 3	
	Wed	1/29	No Class		
2	Mon	2/3	Intro to optimization; Linear Programming basic concepts	Ch 2, 3	
3	Wed	2/5	Linear Programming formulation and applications	Ch 2, 3	
4	Mon	2/10	Introduction to Excel Solver	Ch 2, 3	HW1
	Wed	2/12	No Class		
	Mon	2/17	No Class		
5	Tue	2/18	Graphical method: solving LPs geometrically	Ch 2	
6	Wed	2/19	Linear Programming formulation and applications	Ch 2, 3	HW2
7	Mon	2/24	Linear Programming formulation and applications	Ch 2, 3	
8	Wed	2/26	Spreadsheet optimization models using Excel Solver	Ch 2, 3	
9	Mon	3/3	Sensitive Analysis	Ch 5	HW3
10	Wed	3/5	Introduction to integer programming	Ch 3, 7	
11	Thu	3/6	Binary integer programming: logical constraints	Ch 7	
12	Mon	3/10	Binary integer programming: formulation and applications	Ch 7	HW4
13	Wed	3/12	Nonlinear Optimization Models	Ch 8	
14	Mon	3/17	Midterm Exam review		
15	Wed	3/19	Midterm Exam		
16	Mon	3/24	Network: Transportation, transshipment, and assignment	Ch 3, 15	
17	Wed	3/26	Network: Shortest path, maximizing flow, and minimizing cost	Ch 6	HW5
	Mon	3/31	No Class		
18	Wed	4/2	Network optimization problems: Excel Solver	Ch 3, 6, 15	
19	Mon	4/7	Goal Programming: Weighted	Ch 17	
20	Wed	4/9	Goal Programming: Preemptive	Ch 17	
	Mon	4/14	No Class		
	Wed	4/16	No Class		
21	Mon	4/21	Goal Programming: Excel Solver	Ch 17	HW6
22	Wed	4/23	Decision Analysis: Introduction	Ch 9	
23	Mon	4/28	Decision Analysis	Ch 9	
24	Wed	4/30	Decision Analysis: Excel Solver	Ch 9	HW7
25	Mon	5/5	Simulation: intro and random number generation	Ch 12	
26	Wed	5/7	Simulation models: probability distributions	Ch 12, 13	
27	Mon	5/12	Simulation models: probability distributions, Monte Carlo	Ch 12, 13	HW8
28	Wed	5/14	Final Exam Review		
		TBD	Final Exam		

- The schedule is subject to change. All changes will be announced on Brightspace. Any class cancellations will be announced on Brightspace (this is the only official source of announcements for the class).