

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 135: Mathematics for Business Spring 2025 Course Syllabus

NJIT Academic Integrity Code: All Students should be aware that the Department of Mathematical Sciences takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

COURSE INFORMATION

Course Description: Intended for students with major offered by SOM. An introduction to mathematics of business, principles of differential and integral calculus, and optimization.

Number of Credits: 3

Prerequisites: MATH 107 with a grade of C or better or MATH 110 with a grade of C or better or NJIT placement.

Course-Section and Instructors:

Course-Section	Instructor	
Math 135-002	Professor A. Flax	

Office Hours for All Math Instructors: Spring 2025 Office Hours and Emails

Required Textbook:

Title	Finite Mathematics & Calculus with Applications
Author	Margaret Lial
Edition	11th
Publisher	Pearson
ISBN #	Book: 9780135904602 MyMathLab with E-text: 9780135902608
Notes	MyMathLab will not be used.

COURSE GOALS

Course Objectives: An introduction to mathematics of business, principles of differential and integral calculus, and optimization

Course Assessment: The assessment of objectives is achieved through homework, quizzes, and common examinations with common grading.

POLICIES

DMS Course Policies: All DMS students must familiarize themselves with, and adhere to, the Department of Mathematical Sciences Course Policies, in addition to official university-wide policies. DMS takes these policies very seriously and enforces them strictly.

Grading Policy: The final grade in this course will be determined as follows:

Homework	12%
Quizzes	18%
Midterm Exam I	20%
Midterm Exam II	20%
Final Exam	30%

Your final letter grade will be based on the following tentative curve.

A	90 - 100	с	65 - 74
В+	85 - 89	D	55 - 64
В	80 - 84	F	0 - 54
C+	75 - 79		

Attendance Policy: Attendance at all classes will be recorded and is mandatory. Please make sure you read and fully understand the Math Department's Attendance Policy. This policy will be strictly enforced. Each class is a learning experience that cannot be replicated through simply "getting the notes."

Student Absences for Religious Observance: NJIT is committed to supporting students observing religious holidays. Students must notify their instructors in writing of any conflicts between course requirements and religious observances, ideally by the end of the second week of classes and no later than two weeks before the anticipated absence.

Homework:

Homework is an expectation of the course. The homework assignments are posted at the bottom

of this syllabus and in Canvas. Homework will be collected at the beginning of each class. They must be done neatly and correctly for credit. Late homework either will not be accepted or will have points deducted.

Calculus is learned by solving problems.

Quiz Policy: Quizzes will be given approximately once a week throughout the semester. They will be based on the lecture, homework and the in-class discussions.

In case of an excused absence, the average of the quizzes will be used for the missed quiz in the final grade.

Exams: There will be two midterm exams held in class during the semester and one comprehensive final exam.

Exams are held on the following days:

Midterm Exam I	February 28, 2025
Midterm Exam II	April 11, 2025
Final Exam Period	May 10 - May 16, 2025

The final exam will test your knowledge of all the course material taught in the entire course. Make sure you read and fully understand the Math Department's Examination Policy. This policy will be strictly enforced.

Makeup Exam Policy: There will be NO MAKE-UP QUIZZES OR EXAMS during the semester. In the event an exam is not taken under rare circumstances where the student has a legitimate reason for missing the exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the Math Department Office/Instructor that the exam will be missed.

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 academic code of integrity policy that is found at: <u>NJIT Academic Integrity Code</u>.

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 <u>dos@njit.edu</u>.

Artificial Intelligence: This course expects students to work without artificial intelligence (AI) assistance in order to better develop their skills in this content area. As such, AI usage is not permitted throughout this course under any circumstance.

Cellular Phones: All cellular phones and other electronic devices including earphones and airpods must be switched off during all class times.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: Spring 2025 Hours)

Further Assistance: For further questions, students should contact their instructor. All instructors have regular

office hours during the week. These office hours are listed on the Math Department's webpage for Instructor Office Hours and Emails.

Accommodation of Disabilities: The Office of Accessibility Resources and Services (OARS) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you need accommodation due to a disability, please contact the Office of Accessibility Resources and Services at oars@njit.edu, or visit Kupfrian Hall 201 to discuss your specific needs. A Letter of Accommodation Eligibility from the office authorizing student accommodations is required.

For further information regarding self identification, the submission of medical documentation and additional support services provided please visit the Office of Accessibility Resources and Services (OARS) website at:

https://www.njit.edu/accessibility/

Important Dates (See: Spring 2025 Academic Calendar, Registrar)

Date	Day	Event	
January 21, 2025	Tuesday	First Day of Classes	
January 27, 2025	Monday	Last Day to Add/Drop Classes	
March 16, 2025	Sunday	Spring Recess Begins	
March 22, 2025	Saturday	Spring Recess Ends	
April 3, 2025	Thursday	Wellness day	
April 7, 2025	Monday	Last Day to Withdraw	
April 18, 2025	Friday	Good Friday - No Classes	
April 20, 2025	Sunday	Easter Sunday - No Classes Scheduled	
May 6, 2025	Tuesday	Thursday Classes Meet	
May 7, 2025	Wednesday	Friday Classes Meet	
May 7, 2025	Wednesday	Last Day of Classes	
May 8, 2025	Thursday	Reading Day 1	
May 9, 2025	Friday	Reading Day 2	
May 10 - May 16, 2025	Friday to Thursday	Final Exam Period	

Course Outline

Week	Le ct.	Sect.	Торіс	
1	1	R.3	Rational Expressions	# 7, 10, 15, 19, 21, 22
		R.4	Equations	# 11, 13, 15, 17, 19, 20, 30, 31
		R.5	Linear Inequalities	# 7, 10, 14, 18, 20, 23
	2	3.1	Graphing Linear Inequalities	# 9, 12, 15, 20, 25, 27, 29, 34, 35
		3.2	Solving Linear Programming Problems Graphically	# 11, 13, 15
		3.3	Applications	# 1, 5, 8
2	3	10.1	Properties of Functions	# 31, 33, 43, 46, 51, 57, 59, 61, 63, 67, 69
	4	10.3	Polynomial and Rational Functions	# 26, 28, 31, 40, 45, 47, 52, 57
3	5	10.4	Exponential Functions	# 18, 19, 23, 25, 28, 29, 41, 44, 47
	6	10.5	Logarithmic Functions	# 12, 22, 24, 27, 28, 31, 33, 37, 38, 55
4	7	10.6	Growth and Decay	# 15, 18, 19, 23
	8	11.1	Limits Part I	# 13, 17, 36, 39, 42, 43, 45, 47, 49
5	9	11.1	Limits Part II	# 50, 51, 53, 55, 57, 60, 61
	10	11.2	Continuity	# 15, 17, 19, 33, 36, 48
6	11		Exam Review MIDTERM EXAM 1	
	12			
7	13	11.4	Definition of the Derivative	# 1, 2, 3, 4, 11, 15, 17, 21, 23
	14	12.1	Techniques for Finding Derivatives	# 7, 12, 14, 15, 18, 20, 21, 23, 25, 38,44, 57, 58

8	15	12.2	The Product Rule and the Quotient Rule	# 5, 8, 12, 15, 18, 20, 21, 23, 25, 31, 50
	16	12.3	The Chain Rule	# 27, 32, 33, 38, 39, 41, 51, 59
9	17	12.4	Derivatives of Exponential Functions	# 9, 13, 15, 22, 25, 26, 33, 37, 43, 52
	18	12.5	Derivatives of Logarithmic Functions	# 5, 8, 12, 15, 21, 23, 35, 39, 57, 74
10	19	13.1	Increasing and Decreasing Functions	# 9, 19, 23, 25, 27, 34, 55
		13.2	Relative Extrema	# 17, 21, 24, 25, 27, 35, 56, 59
	20	13.3	Concavity and the Second Derivative Test	# 41, 44, 46, 67, 70, 80
11	21		Exam Review	
	22		MIDTERM EXAM 2	
12	23	14.2	Applications of Extremas	# 14, 15, 16, 17, 18, 19, 20
	24	15.1	Antiderivatives	# 11, 13, 21, 23, 25, 37, 39, 41, 43, 49, 55, 58
13	25	15.2	Substitution	# 12, 13, 16, 18, 20, 22, 24, 26, 33
	26	15.4	The Fundamental Theorem of Integral Calculus	# 9, 15, 20, 23, 24, 26, 28, 29, 33
14	27	16.2	Average Value of a Function	# 28, 29, 31, 33, 41
	28		Catch Up/Review	

Updated by Professor A. Flax - 2025 Department of Mathematical Sciences Course Syllabus, Spring 2025