

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 107: University Mathematics A

Fall 2025 Course Syllabus

NJIT Academic Integrity Code: 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: NJIT Academic Integrity Code.

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

COURSE INFORMATION

Course Description: Linear functions, equations, inequalities, systems of linear equations, quadratic equations, logarithmic functions, graphing functions, trigonometric functions.

Number of Credits: 3

Prerequisites: None.

Course-Section and Instructors:

Course-Section	Instructor
Math 107-001	Professor M. Callirgos
Math 107-003	Professor M. Sampedro
Math 107-005	Professor S. Theodore
Math 107-007	Professor D. Hussein
Math 107-009	Professor C. Smaily
Math 107-011	Professor J. Adubato
Math 107-013	Professor S. Gupta
Math 107-015	Professor J. Adubato

Math 107-017	Professor J. Adubato
Math 107-019	Professor S. Gupta
Math 107-101	Professor C. Smaily

Office Hours for All Math Instructors: **Office Hours and Emails**

Required Textbook:

Title	A) <i>Precalculus Version 3 Corrected</i> B) <i>Active Prelude to Calculus</i>
Author	A) Stitz and Zeager B) Boelkins
Edition	A) Version 3, 2013 B) 2018
Publisher	A & B) This textbook is available for free online.
Websites	A. https://stitz-zeager.com/szprecalculus07042013.pdf B. https://activecalculus.org/

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, November 10, 2025**. It will be strictly enforced.

COURSE GOALS

Course Objectives

Students should (a) improve their algebra skills engineering (b) learn about lines and slope, (c) understand many practical applications of systems of equations, (d) Students should gain an appreciation for the importance of trigonometry in scientific, engineering, and other applications., (e) learn about logarithmic and exponential functions and understand their real world applications.

Course Outcomes

Students have improved logical thinking and problem-solving skills.

Students have a greater understanding of the importance of algebra, trigonometry and logarithms and some real-world applications.

Students are prepared for their first course in Calculus.

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:

Exam 1	15%
Exam 2	15%
Homework	15%
Quizzes	20%
Project	5%
Final Exam	30%

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

A	90 - 100	C	65 - 74
B+	85 - 89	D	55 - 64
B	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."

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.

Grades: You must receive a grade of C or better to progress to Math 138, Math 135 or Math 113.

Homework: Homework is an expectation of the course. All homework for this course will be assigned and completed through **MyOpenMath** (www.myopenmath.com). Deadlines for assignments are posted within the portal and must be followed. **MyOpenMath is free to use.** To register, [follow the instructions](#) provided during the first week of class. You will need a **Course ID** and **Enrollment Key**, which will be supplied by the instructor. If you encounter any issues with registration or accessing the system, please contact the instructor immediately. The problems listed in the syllabus are for your practice and understanding. You are encouraged to do them but will not be collected for grading.

Quizzes: As per each instructor, quizzes will be given throughout the semester. They will be based on the lecture, homework and the in-class discussions. Quizzes can be given on paper. There will be 6-10 assessments given throughout the semester.

Exams: There will be two exams and a final. Each exam will test the material taught since the beginning of the semester:

Common Exam I	October 8, 2025
Common Exam II	November 19, 2025
Final Exam	December 14 - December 20, 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.

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

Calculator and AI use: There will be no use of calculators in this course. 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.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: **Fall 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 are in need of accommodations due to a disability please If you need an accommodation due to a disability please contact the Office of Accessibility Resources and Services at oars@njit.edu. The office is located in Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Office of Accessibility Resources and Services office authorizing your accommodations will be 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: **Fall 2025 Academic Calendar, Registrar**)

Date	Day	Event
September 1, 2025	Monday	Labor Day
September 2, 2025	Tuesday	First Day of Classes

September 8, 2025	Monday	Last Day to Add/Drop Classes
October 2, 2025	Thursday	Wellness Day
November 10, 2025	Monday	Last Day to Withdraw
November 25, 2025	Tuesday	Thursday Classes Meet
November 26, 2025	Wednesday	Friday Classes Meet
November 27 to November 30, 2025	Thursday and Sunday	Thanksgiving Recess - Closed
December 11, 2025	Thursday	Last Day of Classes
December 12, 2025	Friday	Reading Day
December 13, 2025	Saturday	Saturday Classes Meet
December 14 to December 20, 2025	Sunday to Saturday	Final Exam Period

Course Outline

Lecture	Sections	Topic	Assignment
1	1.1	Sets of Real Numbers and the Coordinate Plane	A. (11-19) *, 22-26 evens
2	1.2	Relations	A. 41*, 43, 45*, 47*, 49, 51 and 57 B. Preview Activity Section 1.2
3	1.3	Introduction to Functions	A. 1-4, 7-10, 15-22
4	1.4	Function Notation	A. 11* 13-17 odd, 37, 39* 41, 43, 45, 47*, 49, 51 odd, 63, 64, 68*, 69* B. Preview Activity 1.9
5	1.5	Function Arithmetic	A. (1-9)* odd, 22*, 24*, 35* even,
6	1.6	Graphs of Functions	A. 1-6 evens 8*,10, 12, 13, 16, 20*,
7	1.6	Graphs of Functions	A. 42-57 B. Preview Activity 1.8
8	1.7	Transformations	A. 1*,5*,8*,9,21,24*,29, 54-56, 57* 58-63 B. Preview Activity 1.4

9	2.1	Linear Functions	A. 11-15 odd 17*, 19, 21*, 23, 25, 30, 44, 46, 48*, 61* 63, 65*, 67, 69
10		Catch up/Review for Exam 1	
		Exam I	
11	8.1	Systems of Linear Equations	A. 1-8, 28*, 30*, 31* B. Preview Activity Section 1.5
12	2.3	Quadratic Functions	A. 2-4*, 5*, 6-8, 31, 32*, 33-35 B. Preview Activity 5.2
13	3.1	Polynomial Functions	A. 1, 2*, 3, 4, 5*, 6-10, 21, 23, 25*, 33
14	3.2	Factor and Remainder Theorems	A. (1-6)*, 21-29 odd, 31-34 35*, 36, 40 B. Preview Activity 3.1
15	6.1	Introduction to Exponential Functions	B. Preview Activity 3.4
16	6.1	Introduction to Logarithmic Functions	A. 1-4, 9*, 11*, 14*, 15*, (20-26)*, 43-46, 58* B. Preview Activity 3.5
17	6.2	Properties of Logs	A. 10-14*, 15*, 16*, 17*, 18- 20, 35*, 38
18	6.3	Exponential Equations and inequalities	A. 1*, 3, 5*, 6-8*, 9-12
19	6.4	Logarithmic Equations and Inequalities	A. 1-4, 5*, 6, 7, 8*, 9*, 10, 11, 12-15, 22*
20		Catch up/Review for Exam 2	
		Exam #2	
21	10.1	Angles and their Measure	A. 9*, 11, 13*, 18*, 22*, 33, 34*, 35-40*, 52 B. Preview Activity 2.2
22	10.2	Unit Circle	A. 1, 2*, 3-5, 6*, 7-12*, 14*, (21-24)* 31-34 (just find solutions in one revolution), 40-48 Preview Activity 4.1
23	10.3	Six Circular Functions and Identities	A. (1-4)*, 5-8 odd, 21*, 22*, 23, 24, 43-46* (just find solutions in one revolution) B. Preview Activity 2.3
24	10.5	Graphs of Trigonometric Functions (Just Sin/Cos)	A. (1-4)*, 6, 8*, 12*
25	11.2	Law of Sines	A. 1-5*, 24*

26	11.3	Law of Cosines	A. 1-3, 11-15 odd, 19*
27		Catch up/Review for the Final	
		Final Exam	

*Updated by Professor P. Rana Concepcion - 2025
Department of Mathematical Sciences Course Syllabus, Fall 2025*