MATH 107: University Mathematics A
Summer 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, elementary functions, graphing functions.

Number of Credits: 3 **Prerequisites**: None.

Course-Section and Instructors:

Course-Section	Instructor
Math 107-041	Professor K. Carfora

Office Hours for All Math Instructors: Office Hours and Emails

Required Textbook:

Title	*A) Precalculus Version 3 Corrected* *B) Active Prelude to Calculus*
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: Please see the Summer 2025 Academic Calendar for the last day to withdraw based on the summer session you are registered for.

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:

Attendance/Participation	5%
Homework	10%
Quizzes	20%
Midterm Exam	30%
Final Exam	35%

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 the semester is on the syllabus, by section, below. It is essential to hand in homework on time. Late homework will be assessed at a 50% penalty.

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 will 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:

Midterm Exam	Wednesday June 25, 2025, 1:00-3:00pm
Final Exam	Monday July 21, 2025, 1:00-3:30pm

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 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: Summer 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: Summer 2025 Academic Calendar, Registrar)

Date	Day	Event
May 26, 2025	Monday	Memorial Day - University Closed/No Classes Scheduled
May 27, 2025	Tuesday	**Full, First, and Middle Summer** Session Begins
May 31, 2025	Saturday	Last Day to Add/Drop for **Middle Summer** Session
June 20, 2025	Friday	Juneteenth - University Closed/No Classes Scheduled
June 28, 2025	Saturday	Last Day to Withdraw from **Middle Summer** Session
July 4, 2025	Friday	Independence Day - University Closed/No Classes Scheduled
July 8, 2025	Tuesday	**Second Summer Session Begins**
July 21, 2025	Monday	Last Day of Classes for **Middle Summer** Session

Course Outline

All homework comes from textbook A. Assigned problems are at the end of each chapter lecture.
Each week's assignment will be updated in Canvas after each class.

Lecture	Sections	Topic
Week 1 (2 classes)	1.1	Sets of Real Numbers
	1.2	Coordinate Plane & Relations
	1.3	Introduction to Functions
	1.4	Function Notation
Week 2	1.4	Function Notation
	1.5	Function Arithmetic
	1.6	Graphs of Functions
	1.7	Transformations
Week 3	1.7	Transformations
	2.1	Linear Functions
	8.1	Systems of Linear Equations
Week 4	2.3	Quadratic Functions
	7.2	Circles
	3.1	Polynomial Functions
	3.2	Factor and Remainder Theorems
Week 5	Catch-up Review Activity	Catch-up on any leftover Week 4 material Review for Midterm Class activity (time permitting)
	EXAM	**MIDTERM EXAM Chapters 1, 2, 3, 8.1**
	6.1	Introduction to Exponential & Logarithmic Functions
Week 6	6.2	Properties of Logs
	6.3	Exponential Equations
	6.4	Logarithmic Equations
	10.1	Angles and their Measure
Week 7	10.2	Unit Circle
	10.3	Six Circular Functions and Identities
	11.2	Law of Sines
Week 8	11.2	Law of Sines
	11.3	Law of Cosines
	10.5.1	Graphs of Sin and Cos
	Catch-up Review	Catch-up on any Chapter 11 material Review for Final