MATH 101: Foundations of Mathematics for the Liberal Arts

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: Intended for students in degree programs offered by HSS and History. This course reviews principles of algebra and the foundations of mathematics. Degree credit awarded for degrees offered by HUM and History. Effective From: Fall 2011.

Number of Credits: 3

Prerequisites: None.

Course-Section and Instructors:

Course-Section	Instructor
Math 101-001	Professor S. Theordore

Office Hours for All Math Instructors: Tue and Th 10-11:30,(st2282@njit.edu)

Required Textbook:

Title	*College Algebra*
Author	Ratti and McWaters
Edition	4th

Publisher	Pearson
ISBN #	Book: 9780134696485 MyMathLab with E-text: 9780135902608

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

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:

HW and Class Participation	10%
Quizzes	15%
Midterm Exams	45% (15% each)
Final Cumulative Exam	30%

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

A	90 - 100	**C**	70 - 74
B+	85 - 89	**D**	60 - 69
B	80 - 84	**F**	0 - 59
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.

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: Textbook assignments are due the class day following the section lecture and will be collected/reviewed at the beginning of class.

AI Policy:

Exams: There will be three exams during the semester and a cumulative final exam during the final exam week *(Exam dates are approximate)*:

Midterm Exam I	Lecture #9
Midterm Exam II	Lecture #17
Midterm Exam III	Lecture #21
Final Exam	Lecture #28
Final Exam Period	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.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: Fall 2024 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 an 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: 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
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 to Sunday	Thanksgiving Recess - Closed
December 11, 2025	Thursday	Last Day of Classes
December 12, 2025	Friday	Reading Day 1
December 13, 2025	Saturday	Saturday Classes Meet
December 14 to December 20, 2025	Sunday to Saturday	Final Exam Period

Course Outline

Lecture #	Section #	Subject Topic and Homework (HW) Assignment
1	P.1	*Course introduction, expectations and responsibilities*
2	P.1	*The Real Numbers and Their Properties*
		HW: 37, 49, 53, 59, 67, 77, 85, 111, 125, 137
3	P.2	*Integer Exponents & Scientific Notation*
		HW: 19, 29, 31,37, 43,47, 59, 65, 69, 75, 79, 89
4	P.3	*Polynomials*
		HW: 21, 25, 27, 29, 43, 49, 51,53, 57, 59, 65, 67
5	P.4	*Factoring Polynomials*
		HW: 9, 15, 21, 25, 29, 35, 39, 41,43, 49, 53, 61,69, 81
6	P.5	*Rational Expressions*
		HW: 11, 23, 33, 39, 43, 47, 53, 63, 69, 75, 77
7	P.6	*Rational Exponents & Radicals*
		HW: 15, 23,33, 37, 45, 52, 58, 66, 91, 98, 104

8	1.1	*Linear Equations in One Variable/* ***Test 1 Review***
		HW: 11a, 15, 21, 23, 29, 31, 33, 37, 39, 45
9		**TEST 1**
10	1.2	*Applications of Linear Equations*
		HW: 9, 11, 19, 21, 23,32, 39
11	1.3a	*Quadratic Equations – Factoring and Square Root Methods*
		HW:7, 9, 11, 19, 21, 23, 25, 27, 29
12	1.3b	*Quadratic Equations – Review and Completing a Square Method*
		HW: 31, 33, 35, 41, 42, 43, 44
13	1.3c	*Quadratic Equations – Review and Quadratic Formula*
		HW: 47, 49, 51, 53, 57, 61, 65, 67, 69
14	1.3d	*Quadratic Equations - Summary*
		HW:20, 22, 28, 36, 38, 48, 50, 55, 63, 72, 75
15	1.4	*Complex Numbers*
		HW: 9, 11, 23, 27, 31, 39, 41, 45, 49, 53, 54
16	2.1	*The Coordinate Plane/* **Test 2 Review**
		HW: 9, 11, 12, 13, 14, 15, 17, 19
17		**TEST 2**
18	2.2	*Graphs of equations*
		HW: 9, 25, 27, 29, 33, 35, 47, 57, 63, 81, 89
19	2.3	*Lines*
		HW: 9, 10, 15, 21, 23, 29, 33, 35, 41, 43, 47
20	3.1	*Quadratic Functions/* **Test 3 Review**
		HW: 17, 23, 25, 27, 33, 43, 47, 51, 57
		WITHDRAW DEADLINE
21		**TEST 3**

22	3.2	*Polynomial Functions*
		HW: 11, 12, 18, 19, 21, 29, 35, 37, 41
23	3.3	Dividing Polynomials
		HW: 9, 11, 12, 14, 15, 19, 21, 29
24		
25	5.1	*Systems of Linear Equations in Two Variables*
		HW: 9, 10, 15, 27,39, 45, 49,53, 59, 61
26	5.4	*Systems of Nonlinear Equations*
		HW: 17, 23, 33, 39, 41, 45, 47, 49, 51, 53
27	5.5	*Systems of Inequalities*
		HW: 9, 10, 11, 13, 15, 17, 19, 21, 23, 25, 27
28		**REVIEW FOR FINAL EXAM**
		FINAL EXAM PERIOD