MATH 101: Foundations of Mathematics for the Liberal Arts
Fall 2024 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 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 D. Hussein

Office Hours for All Math Instructors: Fall 2024 Office Hours and Emails

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 11, 2024**. 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.

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

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 15 - December 21, 2024

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 2024 Academic Calendar, Registrar)

Date	Day	Event
September 2, 2024	Monday	Labor Day
September 3, 2024	Tuesday	First Day of Classes
September 9, 2024	Monday	Last Day to Add/Drop Classes
November 11, 2024	Monday	Last Day to Withdraw
November 26, 2024	Tuesday	Thursday Classes Meet
November 27, 2024	Wednesday	Friday Classes Meet
November 28 to December 1, 2024	Thursday and Sunday	Thanksgiving Recess - Closed
December 11, 2024	Wednesday	Last Day of Classes
December 12, 2024	Thursday	Reading Day 1
December 13, 2024	Friday	Reading Day 2
December 15 to December 21, 2024	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