MATH 110: University Mathematics B II
Winter 2022-2023 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 whose major requires MATH 111. Trigonometric functions and identities, laws of sines and cosines, logarithmic equations, systems of nonlinear equations, polar coordinates.

Number of Credits: 4

Prerequisites: Students MUST have passed the same course at NJIT with a grade of "D" or better and are repeating the course to improve their grade.

Course-Section and Instructors:

Course-Section	Instructor
Math 110-W01	Professor J. Porus

Days, Times, and Locations:

Days	Times	Locations
M, T, W, R, F	9:00AM - 11:45PM	CKB 219
M, T, W, R, F	12:45PM - 3:15PM	CKB 219

Required Textbook:

Title	*Precalculus - A Right Triangle Approach*
Author	Ratti and McWaters
Edition	4th
Publisher	Pearson

ISBN #	978-0134851013

Required Textbook #2: Precalculus, by Abramson: https://openstax.org/details/books/precalculus

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Wednesday, January 4, 2023**. 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:

Homework	10%
Quizzes	20%
Midterm Exam	30%
Final Exam	40%

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 Policy: Homework is an expectation of the course. The instructor will be assigning homework daily and will specify the due date/time. Students are encouraged to complete all the problems listed below in the Assignment outline. However, the instructor will inform which specific problems to submit for grading.

Quiz Policy: Quizzes will be given throughout the term. They will be based on the lecture, homework, and the in-class discussions

Exams: There will be one exam held during the semester and a cumulative final exam. Exams will be held on the following days:

Midterm Exam	January 6, 2023
Final Exam	January 13, 2023

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

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.

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Important Dates (See: Winter 2022-2023 Academic Calendar, Registrar)

Date	Day	Event
December 26	Monday	Winter Session Classes Begin
December 27	Tuesday	Last Day to Add/Drop Classes
January 1	Sunday	New Years Day - No Classes
January 4	Wednesday	Last Day to Withdraw
January 13	Friday	Last Day of Winter Session/Final Exams
January 14	Saturday	Inclement Weather Make-Up Day, if necessary

Course Outline

Lecture #	Section #	Topic	Assignment
1	P Chapter	Algebra Review	*P1: ex. 82, 84, 86, 116, 122, 126, 128, 130*
			P2: ex. 18 20, 24, 28, 32, 36, 38, 42, 48, 50, 58, 66, 72
2			*P6: ex 25, 31, 40, 51, 57, 62, 68, 76, 84, 88, 92, 94, 96, 105*
	4.1	Exponential Functions	*4.1 ex: 25, 31, 37, 45-49, 51*

3	4.2	Logarithmic Functions	*4.2 ex: 33, 37, 45, 49, 55, 61, 75, 85, 91*
	4.3	Rules of Logs	*4.3 ex: 13, 15, 33, 41, 67, 69, 89*
	4.4	Exponential and Log Equations	*4.4 ex: 21, 29, 33, 39, 53-63 odd*
4	5.1	Angles and their Measure	*5.1 9, 13, 35, 55, 61, 69, 73*
	5.2	Right Triangle Trigonometry	*5.2 ex: 7, 9, 17, 27, 33, 43, 55, 89*
	5.3	Trigonometric Functions of any angle	*5.3 ex: 19, 23, 65, 75*
5	5.4	Graphs of Sin and Cos	*5.4 24, 45, 52, 70, 87*
	5.5	Graphs of other Trigonometric Functions	*5.5 9, 29, 35, 37*
6	6.1	Verifying Identities	*6.1 ex: 13, 23, 25-35 odd, 59*
	6.2	Sum and Difference Formulas	*6.2 ex: 9, 11, 15, 22, 25, 29*
7		**Midterm Exam**	
8	6.3	Double angle and half angle formulas	*6.3 ex: 7, 13, 23, 33, 35,*
	6.5	**Trig Equations 1**	*6.5 ex: 7-15 odd, 17, 23, 46*
9	6.6	**Trig Equations 2**	*6.6 ex: 7-25 odd*
	7.1	Law of Sines	*7.1 ex: 17, 21-29 odd*
10	7.2	Law of Cosines	*7.2 ex: 9, 11, 18, 19, 35*
	7.3	Areas of Polygons	*7.3 ex: 5, 7, 27, 35*
11	2.2	Circles	*2.2 ex: 71, 75, 79, 81*
	10.3	The Ellipse	*10.3 ex: 13, 19, 27, 31, 41, 45*
12	7.6	Polar Coordinates	*7.6 ex: 13, 19, 25, 29, 31*
	8.1	Systems of Linear Equations	*8.1 ex: 39, 45, 51, 55, 57*
13	8.2	Systems of Linear Equations – Three Variables	*8.2 ex: 9, 11, 23, 29*
	8.3	Partial Fraction Decomposition	*8.3 ex: 17, 19, 21, 25, 39*
14	8.4	Systems of Nonlinear Equations	*8.4 ex: 15, 21, 31, 41, 45*
	12.1	Finding Limits	*12.1 TBD*
	12.2	Properties of Limits	
15		Catch up and Review	
		FINAL EXAM	

Updated by Professor J. Porus - 12/12/2022