

MATH 110-FTF: University Mathematics B II

Summer 2021 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.

Online Exam Policy Summer 2021: Exams will be proctored using both Respondus LockDown Browser+Monitor and Webex. Students will be required to join a Webex meeting from their phone with their cameras on, and to access the exam through LockDown Browser on a Mac or Windows PC with webcam. Students must follow all instructions related to environment checks and camera positioning.

COURSE INFORMATION

Course Description: Intended for students whose major requires Math 111. Trigonometric functions, identities, laws of sines and cosines, logarithmic equations, systems of nonlinear equations, polar coordinates.

Number of Credits: 4

Prerequisites: Math 108 or placement by performance on standardized entrance examinations.

Course-Section and Instructors

Course-Section	Instructor
Math 110-FTF	Professor A. Flax

Office Hours for All Math Instructors: [Summer 2021 Office Hours and Emails](#)

Required Textbook:

Title	<i>Precalculus: A Right Triangle Approach</i>
Author	Ratti and McWaters
Edition	4th
Publisher	Pearson
ISBN #	978-0134851013
Notes	w/ MyMathLab

REQUIRED TEXTBOOK #2: Precalculus, by Abramson: <https://openstax.org/details/books/prec calculus>

Withdrawal Date: Please see the [Summer 2021 Academic Calendar](#) for the last day to withdraw based on the summer session you are registered for.

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:

Common Midterm Exam I	20%
Common Midterm Exam II	20%
Homework, Quizzes and Other Required Course Work	30%
Final 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: Homework is an expectation of the course. All homework for the summer session is listed, by section, below. All Hand-In (written) Homework will be uploaded online into Canvas as a PDF file. All other problems that are listed are not required for submission, but it is strongly suggested that they be completed for practice and preparation for exams.

- Online homework will be in My Math Lab sections listed will be in conjunction with your text.

Quiz Policy: Quizzes will be given approximately twice a week throughout the semester. They will be based on the lecture, homework and the in-class discussions. There will be 8-10 assessments given throughout the semester. The quizzes will be delivered online.

Classwork and Recitation Work: Small daily classwork will be assigned which will be completed in class or outside of class to be uploaded that day. Recitation work will be uploaded as well.

Exams: There will be TWO common midterm exams and one comprehensive final exam. Exams are held on the following days:

Dates for these exams are below:

Common Midterm Exam I	July 21, 2021
Common Midterm Exam II	August 4, 2021
Final Exam	August 16, 2021

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: To properly report your absence from a midterm or final exam, please review and follow the required steps under the DMS Examination Policy found here:

- http://math.njit.edu/students/policies_exam.php

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: [Summer 2021 Hours](#))

Accommodation of Disabilities: Disability Support Services (DSS) 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 contact Chantonette Lyles, Associate Director of Disability Support Services at [973-596-5417](tel:973-596-5417) or via email at lyles@njit.edu. The office is located in Fenster Hall Room 260.

For further information regarding self-identification, the submission of medical documentation and additional support services provided please visit the Disability Support Services (DSS) website at:

<https://www.njit.edu/studentssuccess/accessibility>

Important Dates (See: [Summer 2021 Academic Calendar](#), Registrar)

Date	Day	Event
July 7, 2021	Wednesday	First Day of Classes
July 7, 2021	Wednesday	Last Day to Add/Drop
July 22, 2021	Thursday	Last Day to Withdraw
August 16, 2021	Monday	Last Day of FTF and Final Exam

Course Outline

Lecture	Sections	Topic	MyLab Math (Online)	Hand-In Written (Canvas)	Additional Recommended
7/7	P.1 – P.6 1.1 - 1.5	Introduction to the course, Algebra Review	Algebra and Orientation		1.1 (30, 43, 52, 55) 1.2 (51, 52) 1.3 (15, 31, 42, 57, 59)
	4.1	Exponential Functions	4.1 (21, 22, 35, 39, 41, 43-46, 111) P.2 (41)	4.1 (24, 26, 56, 61, 80, 85, 96)	4.1 (25, 31, 37, 45- 49, 51, 65, 69, 95)
7/9	4.2	Logarithmic Functions	4.2 (33-45 odd, 49, 51, 55, 59, 61, 71, 93) P.6 (109)	4.2 (40, 50, 52, 58, 92, 104, 96, 112, 119)	4.2 (33,37,45,49,55,61,75, 85,91)
	4.3	Rules of Logarithms	4.3 (11, 13, 15, 17, 31, 39, 53, 59, 83, 93)	4.3 (17, 19, 38, 54, 82, 84)	4.3 (13, 15, 33, 41, 67, 69, 89, 97)
	4.4	Exponential and Log Equations	4.4 (11, 21, 39, 45, 61, 63, 65, 67, 69, 73)	4.4 (24, 26, 38, 47, 48, 68, 78)	4.4 (29, 33, 39, 53-63 odd)
7/12	5.1	Angles and their measures	5.1 (13, 15, 17, 33-41 odd, 65, 67, 73, 75, 77, 83, 91-103 odd)	5.1 (32, 65, 68, 72, 90, 91, 96) Application Problem 5.1	5.1 (9, 13, 35, 39, 55, 57, 61, 69, 73, 77)
		Pulley System Project		Problems in Packet	
	5.2	Right Triangle Trigonometry Trigonometric Functions of any angle	5.2 (9, 11, 19, 25, 26, 27, 37, 41, 55, 57, 61, 63, 86, 89, 93)	5.2 (12, 16, 34, 42, 46, 52, 90, 91, 92) Application Problem 5.2	5.2 (7, 9, 17, 33, 39, 43, 49, 55, 59, 89)
7/14	5.3	Trigonometric Functions of any angle Part 1	5.3 (9, 11, 19, 21, 25, 27, 29, 39, 42, 45, 79, 81, 87, 89, 91)	5.3 (16, 24, 36, 41, 45, 47, 59)	5.3 (19, 23, 65, 75)
	5.3	Trigonometric Functions of any angle	5.3 (47, 48, 49, 59, 61, 63, 65, 101, 114, 121)	5.3 (79, 91, 102)	5.3 (44, 47, 57, 88, 89)
	5.4	Graphs of Sin and Cos	5.4 (11, 19, 27, 31, 37, 49, 59, 69, 81, 93, 95)	5.4 (20, 21, 38, 45, 49, 60, 64, 84) Application Problem 5.4	5.4 (24, 52, 56, 59, 70, 79, 83, 87, 91)
7/16	5.5	Graphs of other Trigonometric Functions	5.5 (9, 25, 27, 43, 47, 51, 53, 59)	5.5 (26, 46, 51, 53)	5.5 (29, 37, 54, 58)
	5.6	Inverse Trigonometric Functions	5.6 (9-21 odd, 43, 45, 63, 83, 85)	5.6 (12, 20, 22, 40, 44, 46, 64) Application Problems 5.6	5.6 (9, 11, 17, 21, 27, 33, 35, 37, 47, 51, 65, 69, 81, 85)
7/19	6.1	Verifying Identities	6.1 (11, 13, 15, 17, 21, 22, 35, 43, 51, 59, 81)	6.1 (12, 16, 24, 32, 38, 48, 61, 83) Application Problems 6.1	6.1 (23, 25-33 odd, 63, 71, 95, 96, 97)

		Catch up and Review			
7/21 - common		COMMON EXAM 1			
	6.2	Sum and Difference Formulas	6.2 (9, 17, 23, 29, 30, 45, 47, 49, 53, 55, 65, 95, 97)	6.2 (24, 30, 44, 70) Application Problems 6.2	6.2 (9, 11, 15, 22, 25, 29, 41, 51, 63, 113)
7/23		APPLICATION 2: Rolling Wheel Problem		Problems in Packet	
	6.3	Double Angle/Half Angle Formulas	6.3 (9, 11, 15, 17, 39, 51, 53, 65)	6.3 (18, 27, 28, 41, 43, 52, 56) Application Problem 6.3	6.3 (7, 13, 23, 33, 35, 37, 45, 47, 49, 55, 57, 59, 91)
7/26	6.5	Trig Equations I	6.5 (9, 11, 15, 17, 41, 49, 63, 71, 75)	6.5 (16, 42, 50, 64, 76, 81)	6.5 (7-15 odd, 17, 23, 46, 47, 52, 55, 61, 67, 77)
	6.6	Trig Equations II	6.6 (9, 13, 15, 19, 23, 27, 71, 73)	6.6 (14, 20, 78, 84)	6.6 (7-25 odd, 85)
7/28	7.1	Law of Sines	7.1 (11, 21, 23, 25, 33, 84)	7.1 (44, 73, 89) Application Problem 7.1	7.1 (17, 21-29 odd, 61)
	7.2	Law of Cosines	7.2 (11, 19, 21, 29, 33, 47, 56, 61, 66, 67, 73, 76, 77)	7.2 (10, 16, 22, 66) Application Problems 7.2	7.2 (9, 11, 18, 19, 35, 63) (HW may require calculator)
7/30	7.3	Areas of Polygons Using Trigonometry	7.3 (11, 15, 25, 33, 35, 37, 39, 41, 45)	7.3 (10, 12, 40, 54) Application Problems 7.3	7.3 (27, 35, 56) (HW may require calculator)
	2.2	Circles	2.2 (75, 79, 83-93 odd)	2.2 (80, 84, 86, 88, 90)	2.2 (75, 77, 79, 81, 85, 92)
8/2	10.3	The Ellipse	10.3 (9, 11, 13, 23, 35, 51, 53)	10.3 (10, 18, 30, 36, 58)	10.3 (13, 19, 27, 31, 41, 45, 49)
		Catch up and Review			
8/4 - common		COMMON EXAM 2			
	7.6	Polar Coordinates	7.6 (11, 31, 33, 41, 55, 59, 61, 65, 67, 69, 77)	7.6 (12, 32, 40, 41, 49, 51, 53, 60)	7.6 (13, 19, 25, 29, 31, 37, 41, 43, 46)
8/6	7.6	Polar Coordinates		7.6 (72, 74, 76, 78)	7.6 (57, 61, 63, 65, 67, 71, 73)
	8.1	Systems of Linear Equations in Two Variables	8.1 (17, 59, 61, 67, 71, 83, 85, 89, 91-97 odd, 109, 111)	8.1 (62, 66, 76, 78) Application Problem 8.1	8.1 (39, 45, 51, 55, 57, 69, 71, 95, 99)
8/9	8.2	Systems of Linear Equations in Three Variables	8.2 (13, 25, 51, 63)	8.2 (22, 26) Application Problem 8.2	8.2 (9, 11, 23, 29)

	8.3	Partial Fraction Decomposition	8.3 (11-15 odd, 33, 59, 63, 65, 79)	8.3 (20, 22, 32, 56)	8.3 (17,19,21,25,39)
8/11	8.3	Partial Fraction Decomposition		8.3 (78, 84) Application Problems 8.3	8.3 (59, 61, 69)
	8.4	Systems of Non-Linear Equations	8.4 (11, 45, 47, 49, 51, 59, 61, 67)	8.4 (20, 34, 46, 50, 62, 68, 72) Application Problems 8.4	8.4 (15, 21, 31, 41, 45, 65, 69)
	Open Stax Section 12.1	Finding Limits: Numerical and Graphical Approaches		Assignment 12.1	
8/13	Open Stax Section 12.2	Finding Limits: Properties of Limits		Assignment 12.2	
		Catch-up and Review			
FINAL EXAM August 16					

*Updated by Professor A. Flax - 6/15/2021
Department of Mathematical Sciences Course Syllabus, Summer 2021*
