NJIT New Jersey's Science & Technology University

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 110-FTF: University Mathematics B II
Summer 2020 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, 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 2020 Office Hours and Emails

Required Textbook:

Title	*Precalculus: A Right Triangle Approach*
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/precalculus

Withdrawal Date: Please see the Summer 2020 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%
Quizzes	15%
All Homework and Other Required Course Work	15%
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.

- On line 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.

Exams: There will be TWO common midterm exams and one comprehensive final exam. The exams will require RespondUs Lockdown Browser with a pdf file Upload after the exam is completed. Exams are held on the following days:

Dates for these exams are below:

Common Midterm Exam I	July 15, 2020
Common Midterm Exam II	July 29, 2020
Final Exam	August 12, 2020

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.

ONLINE REQUIREMENTS:

- **Course Lecture and Office Hours** – The greatest effort to maintain the benefits of Face-to-Face instruction and interaction will be completed through the use of Regular lecture periods, recitation and office hours through the use of WebEx and other conferencing and communication tools. All of these tools require the use of a web camera, microphone and high-speed internet in order to fully engage with the class. Active participation and interaction are expected. Other digital tools maybe used with the lecture and the course.

- **Recitation** – Recitation will take place in the TAs Webex Room; students are expected to attend recitation session and will be required to submit work through Canvas (via file upload) at the end of the session to ensure full recitation attendance. The file must be labeled **LASTNAME_FIRSTNAME_RecitationDate.PDF**. **(Ex. DOE_JOHN_RecitationJune30.PDF)**

- **Classwork -** Problems will be assigned during lecture to be done during the lecture. Classwork is required to be submitted through Canvas (via file upload) shortly after the end of class as part of the course work. The file must be labeled **LASTNAME_FIRSTNAME_ClassworkDate.PDF (Ex. DOE_JANE_ClassworkJuly12.PDF).**

- **Hand In (Written) Homework** – Hand in homework will be submitted through Canvas (via file upload). The file upload must be in PDF format. The file must be labeled as **LASTNAME_FIRSTNAME_HW.PDF (Ex. DOE_JOHN_HW15.PDF).**

- **Quizzes -** Quizzes will take place on Canvas with the use of the Lockdown Browser and Respondus. These measures ensure that testing integrity is maintained, and work can be accurately graded. It is recommended that you download Lockdown Browser and Respondus at the beginning of the course. Certain quiz problems will require supporting work to be submitted and uploaded into Canvas as a PDF file after the quiz is completed. Please note if uploaded work is not provided for these problems, points will be lost. The file must be labeled **LASTNAME_FIRSTNAME_QUIZ.PDF (Ex. DOE_JOHN_Quiz1.PDF).**

- **Common Exams** – Common exams will be administered with the use of the Lockdown Browser and Respondus. These measures ensure that testing integrity is maintained, and work can be accurately graded. It is recommended that you download Lockdown Browser and Respondus at the beginning of the course. Certain exam problems will require supporting work to be uploaded into Canvas as a PDF after the exam is completed. Please note if uploaded work is not provided for these problems, points will be lost. The file must be labeled **LASTNAME_FIRSTNAME_EXAM.PDF**. **(Ex. DOE_JANE_Exam1.PDF).**

- **Tools for Uploading Files**:

  NJIT Recommendations for Scanning your work into a PDF.

  Scanning with the IOS Notes App

  Scanning with Google Drive App for Android

- **Requirements for Quiz and Test Taking**:
  - You must have a Webcam for quiz and test taking.
  - Desk must be clear of ALL textbooks, notebooks, calculators etc.
  - You must show your blanks sheets of paper (both sides) to the camera during the environment check.
  - You must show yourself silencing your phone and placing the phone far away from your desk during the environment check.
  - You must show your handwritten work to the camera before exiting Respondus/Lockdown Browser.
  - Once you uploaded your work in Canvas, you must check that the assignment is there in Canvas. You should also check that you uploaded the proper assignment. Emailed or late submissions will not be accepted.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Room G11, See: (Summer 2020 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 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/studentsuccess/accessibility/

Important Dates (See: Summer 2020 Academic Calendar, Registrar)

Date	Event
June 29, 2020	First Day of Classes
	Last Day to Register
	Last Day to Drop
	Last Day to Witdraw
August 12, 2020	Last Day of **FTF SESSIONS AND FINAL**

Course Outline

Lecture	Sections	Topic	MyLab Math (Online)	Hand-In Written (Canvas)	Additional Recommended
6/29	P.1-P.6 1.1-1.5	Introduction to the Course Algebra Review	Initial Algebra Assessment 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)
6/30		First Recitation - Algebra Practice Quiz with Technology			
7/1	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, 38, 54, 82, 84)	4.3 (13, 15, 19, 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, 48, 68, 78)	4.4 (29, 33, 39, 47, 53-63 odd)
7/3	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, 68, 72, 90, 96) Application Problem 5.1	5.1 (9, 13, 35, 39, 55, 57, 61, 69, 73, 77, 91)
		Pulley System Project		Problems in Packet	
	5.2	Right Triangle Trigonometry	5.2 (9, 11, 19, 25, 26, 27, 37, 41, 55,	5.2 (12, 16, 34, 42, 46, 52, 90, 91, 92)	5.2 (7 ,9, 17, 33, 39, 43, 49, 55, 59, 89)

		Trigonometric Functions of any Angle	57, 61, 63, 86, 89, 93)	Application Problem 5.2	
7/6	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, 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, 88, 102)	5.3 (44, 47, 57, 89, 91)
	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, 60, 64, 84) Application Problem 5.4	5.4 (24, 49, 52, 56, 59, 70, 79, 83, 87, 91)
7/8	5.4	Graphs of Sin and Cos - Continued			
	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)
7/10	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)
	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)Application Problems 6.1	6.1 (23, 25-31 odd, 63, 71, 83, 95, 96, 97)
7/13	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)
		CATCH UP AND REVIEW			
7/15		**COMMON EXAM 1**			
		APPLICATION 2: Rolling Wheel Problem		Problems in Packet	
7/17	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)
	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)
7/20	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)
	7.1	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)
7/22	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) may require calculator
	7.3	Areas of Polygons Using Trigonometry	7.3 (11, 15, 25, 33, 35, 37, 39, 41,	7.3 (10, 12, 40, 54) Application	7.3 (27, 35, 56) may require calculator

			45)	Problems 7.3	
7/24	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)
	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)
7/27	7.6	Polar Coordinates		7.6 (12, 32, 40, 49, 51, 53)	7.6 (13, 19, 25, 29, 31, 37, 41, 43, 46)
		CATCH UP AND REVIEW			
7/29		**COMMON EXAM 2**			
	7.6	Polar Coordinates	7.6 (11, 31, 33, 41, 55, 59, 61, 65, 67, 69, 77)	7.6 (72, 74, 76, 78)	7.6 (57,60, 63, 65, 67, 71, 73)
7/31	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)
	8.2	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	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)
	8.3	Partial Fraction Decomposition		8.3 (78, 84)	8.3 (59, 61, 69)
8/5	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)
8/7	Open Stax Section12.1	Finding Limits: Numerical and Graphical Approaches		Assignment 12.1	
	Open Stax Section12.2	Finding Limits: Properties of Limits		Assignment 12.2	
8/10		**CATCH-UP AND REVIEW**			

FINAL EXAM AUGUST 12TH

Updated by Professor A. Flax - 6/18/2020
Department of Mathematical Sciences Course Syllabus, Summer 2020