

MATH 110: University Mathematics B II - Trigonometry

Summer 2019 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: MATH 108 or placement by performance on standardized entrance examinations.

Course-Section and Instructors

Course-Section	Instructor
Math 110-031	Prof. P. Rana

Office Hours for All Math Instructors: [Summer 2019 Office Hours and Emails](#)

Required Textbook:

Title	<i>Precalculus - A Right Triangle Approach</i>
Author	Ratti and McWaters
Edition	3rd
Publisher	Pearson
ISBN #	978-0321912794
Notes	w/ MyMathLab

Withdrawal Date: Please see the [Summer 2019 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%
Online Homework	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 Policy: Homework is an expectation of the course. All homework for the summer session is listed, by section, below. Online homework will be in My Math Lab sections listed will be in conjunction with your text.

Quiz Policy: Quizzes will be given approximately once a week throughout the semester. They will be based on the lecture, homework and the in-class discussions. There will be 8-12 assessments given throughout the semester.

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

Common Midterm Exam I	June 12, 2019
Common Midterm Exam II	July 17, 2019
Final Exam	August 5, 2019

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, Room G11 (Summer Hours: TBA)

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:

- <http://www5.njit.edu/studentsuccess/disability-support-services/>

Important Dates (See: [Summer 2019 Academic Calendar](#), Registrar)

Date	Event
May 20, 2019	First Day of Classes
May 21, 2019	Last Day to Add/Drop Classes for FIRST, MIDDLE, AND FULL
May 27, 2019	University Closed for Memorial Day
June 24, 2019	Last Day of FIRST SUMMER SESSION
July 1, 2019	First Day of Second Summer Session
July 4-5, 2019	University Closed for Independence Day
July 15, 2019	Last Day of MIDDLE SUMMER SESSION
August 6, 2019	Last Day of FULL AND SECOND SUMMER SESSIONS

Course Outline

Lecture	Sections	Topic	Assignment
1		Introduction to the course	Initial Algebra Assessment in class
		Algebra Review	
2	4.1	Exponential Functions	4.1: ex. 25, 29, 45-48, 61, 69, 71, 73, 75
3	4.2	Logarithmic Functions	4.2: ex. 7, 11, 13, 19, 25, 33, 49, 53
4	4.3	Rules of Logarithms	4.3 ex. 9-15 odd, 23, 27, 33, 43, 47, 67, 71, 91, 93
5	4.4	Exponential and Log Equations	4.4 ex. 9, 21, 33, 39, 53-63 odd
6	4.5	Logarithmic Scales	4.5: ex. 19-25 odd
7	5.1	Angles and their measures	5.1: ex. 31-45 odd, 55-59 odd, 63-73 odd
8		Pulley System Project	Lecture/HW packet given in class.
9	5.2	Right Triangle Trigonometry	5.2: ex. 7-11 odd, 17, 25, 27, 59, 61
10	5.3	Trigonometric Functions of any angle	5.3: ex. 7-17, 81-86
11	5.3	Trigonometric Functions of any angle	5.3: ex. 26, 28, 38, 40, 47, 58, 60, 65, 69
12	5.4	Graphs of Sin and Cos	5.4: ex. 11, 21, 31, 35, 41, 43, 49, 53, 55
13	5.4	Graphs of Sin and Cos	5.4 ex. 64-72 odd
14	5.5	Graphs of other Trigonometric Functions	5.5: ex. 9-13 odd, 27-33 odd
15	5.5	Graphs of other Trigonometric Functions	5.5: ex. 35-43 odd, 57-65 odd
16	5.6	Inverse Trigonometric Functions	5.6: ex. 9-21 odd 31, 41, 63, 67
17	6.1	Verifying Identities	6.1: ex: 31-39 odd, 59, 63, 65, 69, 71, 81, 93, 111, 126, 127, 128
18	6.2	Sum and Difference Formulas	6.2: ex: #s: 7 - 17 odd, 27, 29, 31, 35, 51 - 61
19		Catch up and review	

20		EXAM #1	
21		APPLICATION 2: Rolling Wheel Problem	Lecture/HW packet given in class. Homework problems #1, 3, 5, 7
22	6.3	Double Angle/Half Angle Formulas	6.2: ex: #s: 7 - 13 odd, 24, 43, 45, 91
23	6.5	Trig Equations I	6.5: 7 - 25 odd, 39, 47, 51, 55, 57, 61, 63, 65, 67, 86, 88
24	6.6	Trig Equations II	6.6: ex: 7 - 21 odd
25	7.1	Law of Sines	7.1: ex: #s: 21-24, 29, 31, 41 - 55 odd, 69, 71
26	7.2	Law of Cosines	7.2: ex: 19 - 31 odd, 41, 45
27	7.3	Areas of Polygons Using Trigonometry	7.3: ex: 11, 13, 19, 27, 29, 57
28			
29	2.2	Circles	2.2: ex: 71-85
30	10.3	The Ellipse	10.3: ex. 13-33 odd and 41-47 odd
31	7.6	Polar Coordinates	7.6: ex: 23-37 odd 63, 67, 69
32	7.6	Polar Coordinates	7.6: ex: 23-37 odd 63, 67, 69
33		Catch up and review	
34		EXAM #2	
35	8.1	Systems of Linear Equations in Two Variables	8.1: ex.57-71 odd 95, 99
36	8.2	Systems of Linear Equations in Three Variables	8.2: ex. 7, 9, 23, 25, 29
37	8.3	Partial Fraction	8.3: ex. 17-47 odd
28	8.3	Partial Fraction	8.3: ex. 59-63 odd
39	8.4	Systems of Non-Linear Equations	8.4: ex.15-29 odd
40	9.1	Matrices & Systems of equations	9.1: ex: 9-15 odd, 19-24, 29, 31
41	9.2	Matrix Algebra	9.2: ex: 7-21 odd
		CATCH UP AND REVIEW	
		FINAL EXAM	

*Updated by Professor P. Rana - 5/22/2019
Department of Mathematical Sciences Course Syllabus, Summer 2019*