NJIT
New Jersey's Science & Technology University

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 107-FTF : University Mathematics BI
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: Linear functions, equations, inequalities, systems of linear equations, quadratic equations, elementary functions, graphing functions.

Number of Credits: 3

Prerequisites: None

Course-Section and Instructors

Course-Section	Instructor
Math 107-FTF	Professor I. Peltekov

Office Hours for All Math Instructors: Summer 2020 Office Hours and Emails

Required Textbook:

A. Precalculus Version 3 Corrected	*http://stitz-zeager.com/szprecalculus07042013.pdf*
B. Active Preparation for Calculus	http://faculty.gvsu.edu/boelkinm/Home/APC/pdf/index.pdf

Withdrawal Date: Please see the Summer 2020 Academic Calendar for the last day to withdraw based on the summer session you are registered for.

COURSE GOALS

Course Objectives

- Students should (a) improve their algebra skills engineering (b) learn about lines and slope,(c) understand many practical applications of systems of equations, (d) Students should gain an appreciation for the importance of trigonometry in scientific, engineering, and other applications., (e) learn about logarithmic and exponential

functions and understand their real world applications.

Course Outcomes

- Students have improved logical thinking and problem-solving skills.
  Students have a greater understanding of the importance of algebra, trigonometry and logarithms and some real world applications.
  Students are prepared for General Calculus.

Course Assessment: The assessment of objectives is achieved through homework, quizzes, and common examinations with common grading.

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 and Video Assignments	20%
Midterm	30%
Final	40%

Your final letter grade will be based on the following tentative curve.

A	90 - 100	C	65 - 74
B+	85 - 89	D	55 - 64
B	80 - 79	F	0 - 54
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. Attending online conferences and submitting the video assignments will count toward attendance.

Homework Policy: Homework is an expectation of the course. Homework will be assigned from the Textbook and on paper below. Problems marked with a * will be collected and graded.

Quiz Policy: Quizzes will be given throughout the semester. They will be based on the video lectures, homework, and the canvas concerences.

Exams: There will be 1 common midterm exam held during the semester and 1 comprehensive common final exam. Exams are held on the following days:

Midterm Exam	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.

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
May 18, 2020	First Day of Classes
May 18, 2020	Last Day to Add/Drop Classes for **FIRST, MIDDLE, AND FULL**
May 25, 2020	University Closed for Memorial Day
June 22, 2020	Last Day of **FIRST SUMMER SESSION**
June 29, 2020	First Day of **FTF AND SECOND SUMMER SESSION**
July 4, 2020	University Closed for Independence Day
July 13, 2020	Last Day of **MIDDLE SUMMER SESSION**
August 3, 2020	Last Day of **FULL AND SECOND SUMMER SESSIONS**
August 12, 2020	Last Day of **FTF SUMMER SESSIONS**

Course Outline

Lecture	Section		Topic
1	1.1	Sets of Real Numbers and the Coordinate Plane	A. (11-19)*, 22-26 evens
	1.2	Relations	A. 41*, 43, 45*, 47*, 49, 51 and 57
2	1.3	Introduction to Functions	Solving Other Types of Equations
	1.4	Function Notation	A. 11* 13-17 odd, 37, 39* 41, 43, 45, 47*, 49, 51 odd, 63, 64, 68*, 69*
3	1.5	Function Aritmetic	A. (1-9)* odd, 22*, 24*, 35* even,
	1.6	Graph of Function	A. 1-6 evens 8*,10, 12, 13, 16, 20*,
4	1.6	Graph of Function	A. 42-57
	1.7	Transformations	A. 1*,5*,8*,9,21,24*,29, 54-56, 57* 58-63
5	2.1	Linear Functions	A. 11-15 odd 17*, 19, 21*, 23, 25, 30, 44, 46, 48*, 61*
6	8.1	Systems of Linear Equations	A. 1-8, 28*, 30*, 31*

	2.3	Quadratic Functions	A. 2-4*, 5*, 6-8, 31, 32*, 33-35
7	2.3	Quadratic Functions Day 2	
	3.1	Polynomial Functions	A. 1, 2*, 3, 4, 5*, 6-10, 21, 23, 25*, 33
8	3.2	Factor and Remainder Theorems	A. (1-6)*, 21-29 odd, 31-34 35*, 36, 40
	6.1	Introduction to Exponential and Logarithmic Functions	A. 1-4, 9*, 11*, 14*, 15*, (20-26)*, 43-46, 58*
9	6.2	Properties of Logs	A. 10-14*, 15*,16*, 17*, 18- 20, 35*, 38
	6.3	Exponential Equations and Inequalities	A. 1*, 3, 5*, 6-8*, 9-12
10	6.3	Exponential Equations and Inequalities Day 2	
	6.4	Logarithmic Equations and Inequalities	A. 10-14*, 15*,16*, 17*, 18- 20, 35*, 38
11		**Exam Review and Exam 1**	
12	10.1	Angles and their Measure	A. 9*, 11, 13*,18*, 22*, 33, 34*, 35-40*, 52
	10.2	Unit Circle	A. 1, 2*, 3-5, 6*, 7-12*, 14*, 31-34 (just find solutions in $0 \leq \ \leq 2$)
13	10.2	Unit Circle Continued	A. (21-24)*, 35-38, 65-68
14	10.3	Six Circular Functions and Identities	A. (1-4)*, 5-8 odd, 21*, 22*, 23, 24, 43-46* (just find solutions in $0 \leq \ \leq 2$))
15	10.5	Graphs of Trigonometric Functions (Just Sin/Cos)	A. (1-4)*, 6, 8*, 12*
16	11.2	Law of Sines	A. 1-5*, 24*
17	11.3	Law of Cosines	A. 1-3, 11-15 odd, 19*
18		**Final Exam**	