NJIT
New Jersey's Science &
Technology University

THE COLLEGE OF SCIENCE
AND LIBERAL ARTS

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 107-041: University Mathematics BI
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: 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 107-041	Professor J. Davis

Office Hours for All Math Instructors: Summer 2019 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 2019 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 logarithims 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 and Quiz	25%
Midterm Exam	35%
Final Exam	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 - 84	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.

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

Quiz Policy: Quizzes will be given approximately once per week throughout the semester. They will be based on lecture, homework, and in-class discussion.

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

Common Midterm Exam I	June 19, 2019
Final Exam	July 15, 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	Section	Topics	Assignment
1	1.1 1.2	Linear Equations in One Variable Quadratic Equations	7-11 odd, 21-31 odd, 32*, 35, 44*, 53, 63, 79, 80* 7-11 odd, 19, 22*, 25, 31, 39, 40*, 43, 47, 48*, 51-61 odd
2	1.4	Solving Other Types of Equations	18, 20*, 27, 28*, 31, 37, 40*, 41, 53, 61, 78
3	2.1 2.2	Coordinate Plane Graphs of Functions	13, 14, 15, 16*, 35, 38*, 39 33, 37, 38, 42, 47, 50*, 53, 57, 60, 63, 67, 68*, 73
4	2.3	Lines	9, 13, 14*, 27, 31, 32*, 37, 38, 40, 43, 44*, 47, 51, 53, 54*, 77, 80*, 83
5	2.7	Transformations of Functions	7, 11, 13, 15, 16*, 21-32, 35, 41, 43, 63, 68*, 69, 73
6	3.1	Quadratic Functions	9-16, 21, 22*, 29, 31, 51, 55, 56*
7	3.2	Polynomial Functions	29-34, 47, 49, 50*, 51-57 odd, 58*, 71
8	3.3	Polynomial Division	7, 9, 11, 12*, 13
9	4.1	Exponential Functions	25, 26*, 29, 45-48, 49-53 odd, 61, 69, 71, 72*, 73, 75
10	4.2	Logarithmic Functions	7, 11, 13, 19, 25, 33, 49, 50*, 53
11	4.3	Rules for Logarithms	9, 11, 13, 14*, 15, 23, 27, 33, 34*, 43, 47, 48*, 67, 71, 72*, 91, 93
12		Exam Review	

13		EXAM	
14	4.4	Solving Logarithmic Equations	9, 21, 22*, 33, 35, 39, 40*, 53, 55, 57, 58*, 59, 61, 62*, 63
15	5.1	Angles and Their Measure	27-45 odd, 55, 57, 59, 63-73 odd
16	5.2	Right Triangle Trigonometry	7-11 odd, 16*, 17, 25, 26*, 27, 29, 59, 61
17	5.3	Trigonometric Functions of Any Angle	11, 17, 19, 25, 31, 37, 57, 60*, 65, 66*, 67
18	5.4	Graphs of Sine and Cosine	9, 15, 19, 20*, 24*, 31, 53
19	6.5	Trigonometric Equations 1	7, 9, 11, 12*, 13, 15, 39, 40*, 41, 43, 45
20	7.1	Law of Sines	10, 16*, 22, 29
21	7.2	Law of Cosines	7, 11, 13, 15, 16*, 17, 20*, 37, 41, 42, 43
22	8.1	Systems of Linear Equations	7, 9, 11, 57, 59, 61, 62*, 63, 95, 96*, 99, 101
23		Exam Review	
24		EXAM	