MATH 107: University Mathematics BI
Spring 2020 Coordinated 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 107-004	Professor K. Horwitz
Math 107-008	Professor D. Hussein
Math 107-018	Professor T. Autushka
Math 107-028	Professor A. Flax
Math 107-102	Professor C. Smaily

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

Required Textbook:

Title	*A) Precalculus Version 3 Corrected Active Preparation for Calculus*	*B)*
Author	A) Stitz and Zeager B) Boelkins	
Edition	A) Version 3, 2013	
Publisher	A & B) Online	
ISBN #	---	
Website	A) stitz- zeager.com/szprecalculus07042013.pdf B) activecalculus.org/	

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, April 6, 2020**. It will be strictly enforced.

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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 their first course in Calculus.

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

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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	15%
Quizzes	20%
Common Midterm Exam I	15%
Common Midterm Exam II	15%
Final Exam	35%

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. Students are expected to attend class. Each class is a learning experience that cannot be replicated through simply "getting the notes." Attendance at all classes (both lecture and recitation) will be recorded and is mandatory.

Homework Policy: Homework is an expectation of the course. All homework for the semester is on the syllabus, by section, below. It is essential to hand in homework on time. Late homework will be assessed at a 50% penalty.

Online Homework: Online Homework assignments are to be completed using the homework portal called WebAssign. The online assignments can be completed at www.webassign.net. You must purchase webassign

online to get the initial access code to get into the class. In addition, on the first day of class your course instructor will give an additional code "Class key" needed to enroll to WebAssign. WebAssign gives you free access for two weeks after the start of class so there should be no delay in creating and registering your account.

Quiz Policy: As per each instructor, quizzes will be given throughout the semester. They will be based on the lecture, homework and the in-class discussions. There will be 6-10 assessments given throughout the semester.

Exams: There will be two common midterm exams held during the semester and one comprehensive common final exam. Each exam will test the material taught since the beginning of the semester. Exams are held on the following days:

Common Midterm Exam I	February 26, 2020
Common Midterm Exam II	April 8, 2020
Final Exam Period	May 8 - 14, 2020

The time of the midterm exams is **4:15-5:40 PM** for daytime students and **5:45-7:10 PM** for evening students. 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 and put away during all class times.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: Spring 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 Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Disability Support Services office authorizing your accommodations will be required.

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: Spring 2020 Academic Calendar, Registrar)

Date	Day	Event
January 21, 2020	T	First Day of Classes
January 31, 2020	F	Last Day to Add/Drop Classes
March 15 - 22, 2020	Su-Su	Spring Recess: No Classes/ University Open
April 6, 2020	M	Last Day to Withdraw
April 10, 2020	F	Good Friday - University Closed

May 5, 2020	T	Friday Classes Meet - Last Day of Classes	
May 6 & 7, 2020	W & R	Reading Days	
May 8 - 14, 2020	F - R	Final Exam Period	

Course Outline

Lecture	Section	Topic	Assignment
1		Introduction	A. Preview Activity Section 1.1 PDF
2	1.1	Functions	A. 1.1 # 8-13 evens, 22, 23, 27, 29
3	1.2	Domain and Range	A. 1.2 # 12-20, 1.3 13-21, 33-38
4	1.3	Introduction to functions	A. 1.3 # 15-20 B. Preview Activity 1.9
5	1.4	Function Notation	A.1.4 # 5-11 B. Preview activity 1.6 PDF
6	1.5/1.6	Function Arithmetic/Graphs of Functions	A. 1.5 # (1-5)* A. 1.6 #1-6 evens 8*,10, 12, 13, 16, 20*,
7	1.6	Graphs of Functions	A. 42-57 B. Preview Activity 1.8
8	1.7	Transformations	A. 1.7 # 1*,5*,8*,9,21,24*,29,
9	1.7	Transformations	A. 1.7 # 54-56, 57* 58-63 B. Preview Activity 1.4
10	2.1	Linear Functions	A. 11-15 odd 17*, 19, 21*, 23, 25, 30, 44, 46, 48*, 61* 63, 65*, 67, 69
11		Catch up/Review for Exam 1 **EXAM #1**	
12	8.1	Systems of Linear Equations	A. 1-8, 28*, 30*, 31* B. Preview Activity Section 1.5
13	2.3	Quadratic Functions	A. 2-4*, 5*, 6-8, 31, 32*, 33-35 B. Preview Activity 5.2
14	3.1	Polynomial Functions	A. 1, 2*, 3, 4, 5*, 6-10, 21, 23, 25*, 33
15	3.2	Factor and Remainder Theorems	A. (1-6)*, 21-29 odd, 31-34 35*, 36, 40 B. Preview Activity 3.1
16		Introduction to Exponential Functions	B. Preview Activity 3.4
17	6.1	Introduction to Logarithmic Functions	A. 1-4, 9*, 11*, 14*, 15*, (20-26)*, 43-46, 58* B. Preview Activity 3.5
18	6.2	Properties of Logs	A. 10-14*, 15*,16*, 17*, 18- 20, 35*, 38 Preview Activity 6.3
19	6.3	Exponential Equations and inequalities	A. 1*, 3, 5*, 6-8*, 9-12
20	6.4	Logarithmic Equations and Inequalities	A. 1-4, 5*, 6, 7, 8*, 9*, 10, 11, 12-15, 22*
21		Catch up/Review for Exam 2 **EXAM #2**	

22	10.1	Angles and their Measure	A. 9*, 11, 13*,18*, 22*, 33, 34*, 35-40*, 52 B. Preview Activity 2.2
23	10.2	Unit Circle	A. 1, 2*, 3-5, 6*, 7-12*, 14*, (21-24)* 31-34 (just find solutions in $0 \leq \theta < 2\pi$), 40-48 Preview Activity 4.5
24	10.3	Six Circular Functions and Identities	A. (1-4)*, 5-8 odd, 21*, 22*, 23, 24, 43-46* (just find solutions in $0 \leq \theta < 2\pi$) B. Preview Activity 2.3
25	10.5	Graphs of Trigonometric Functions (Just Sin/Cos)	A. (1-4)*, 6, 8*, 12* Preview Activity PDF
26	11.2	Law of Sines	A. 1-5*, 24*
27	11.3	Law of Cosines	A. 1-3, 11-15 odd, 19*
28		Catch up/Review for the Final **FINAL EXAM**	