NJIT New Jersey's Science & Technology University

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 138: General Calculus
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 who are not in Science or in Engineering. An introduction to differential and integral calculus of a single variable.

Number of Credits: 3

Prerequisites: MATH 107 with a grade of C or better, or MATH 110 with a grade of C or better or NJIT placement.

Course-Section and Instructors

Course-Section	Instructor
Math 138-450	Professor M. Hercules

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

Required Textbook:

Title	*Calculus: Concepts and Contexts bundled w/ WebAssign*
Author	Stewart
Edition	4th
Publisher	Cengage
ISBN #	978-1337877367 (WebAssign w/ e-book) 978-0357014356 (WebAssign w/ LL) 978-0357700006 (Cengage Unlimited)

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:

Quizzes	10%
Midterm Exam I	20%
Mideterm Exam II	20%
Midterm Exam III	20%
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. AttendanceNote

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

Midterm Exam I	Week 4
Midterm Exam II	Week 8
Midterm Exam III	Week 12
Final Exam	TBA

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

Week	Section	Title	Homework
1	1.1	Four Ways to Represent a Function	ex. 5 -8, 29 - 33
	1.2	A Catalog of Essential Funcitons	ex. 1, 2
	1.3	New Functions from Old Functions	ex. 1, 2, 3
2	2.1	The Tangent and Velocity Problems	ex. 5, 6, 7
	2.2	The Limit of a Function	ex. 3, 4, 5, 6, 13, 14, 15, 16
3	2.3	Calculating Limits Using the Limit Laws	ex. 1, 2, 9 - 24
4		**Midterm I**	
5	2.5	Limits Involving Infinity	ex. 3, 4, 5, 7, 15, 16, 17, 19, 20, 22, 23, 24
	2.6	Derivatives and Rates of Change	ex. 5, 7, 9ab, 13, 15, 43ab, 45, 47
6	2.7	The Derivative as a Funciton	ex. 3, 4, 5, 6, 14, 15, 16
	3.1	Derivatives of Polynomials and Ecponential Functions	ex. 3 - 28, 45, 49, 50,
7	3.2	The Product and Ouotient Rules	ex. 3 - 15, 29, 30, 33a, 35a, 39,
	3.3	Derivatives of Trigonometric Functions	ex. 1 - 14, 19 - 22, 23a, 25a, 27, 28, 31
8		**Midterm II**	
9	3.4	Chain Rule	ex. 7 - 30, 37, 38
	3.5	Implicit Differentiation	ex. 3 - 16, 21 - 28
10	3.7	Derivatives of Logarithmic Functions	ex. 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14
	3.8	Rates of Change in the Natural and Social Sciences	ex. 1, 4, 7, 8, 9, 10, 11a, 12a, 13ab, 14, 15, 16ab
11	4.1	Related Rates	ex. 2 - 23 odd

12		**Midterm III**	
13	4.2	Minimum and Maximum Values	ex. 3, 5, 23, 25, 27, 29, 41 – 51 odd
	4.3	Derivatives and Shapes of Curves	ex. 7 – 16, 21 – 26
14	4.6	Optimization Problems	ex. 5, 6, 9 – 12, 14, 15, 18, 23, 40
	4.8	Antiderivatives	ex. 1 – 16, 19 – 26
15	5.1	Definite Integral	
		Review for Final Exam	
FINAL EXAM			

Updated by Professor M. Hercules - 5/21/2018
Department of Mathematical Sciences Course Syllabus, Summer 2020