

MATH 138-101: General Calculus I

Fall 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 138-101	Professor M. Hercules-Menjivar

Office Hours for All Math Instructors: [Fall 2020 Office Hours and Emails](#)

Required Textbook:

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

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, November 9, 2020**. It will be strictly enforced.

ADDEMDUM FALL 2020

Structure

- Live sessions starting at 6 pm via Webex.
- Offices hours are from 4 to 6 pm.
- Quizzes will be held from 7 pm to 7:30 pm via Respondus.
- Final exam will be held using Respondus.

Responsibilities

- Watch posted videos
- Take notes on videos
- Complete Webassing homework
- Complete quizzes
- Take advantage of other resources

Resources

- Weekly video updates
- Khan Academy
- Tutoring Center
- Live sessions

Issues?

- Contact Dean of Students if you any technological or general issues that may prevent you from making the required adjustments to complete this course.

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	15%
Midterm Exam	30%
Final Exam	40%

Your final letter grade will be based on the following tentative curve. **NOTE:** This course needs to be passed with a grade of C or better in order to proceed to Math 238 or Math 246.

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 three midterm exams held in class during the semester and one comprehensive final exam. Exams are held on the following weeks:

Midterm Exam	TBA
Final Exam Period	December 15 - 21, 2020

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: There will be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event an exam is not taken under rare circumstances where the student has a legitimate reason for missing the exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the Math Department Office/Instructor that the exam will be missed.

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, Lower Level, Rm. G11 (See: [Fall 2020 Hours](#))

Further Assistance: For further questions, students should contact their instructor. All instructors have regular office hours during the week. These office hours are listed on the Math Department's webpage for [Instructor Office Hours and Emails](#).

All students must familiarize themselves with and adhere to the Department of Mathematical Sciences Course Policies, in addition to official university-wide policies. The Department of Mathematical Sciences takes these policies very seriously and enforces them strictly.

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](tel: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/studentssuccess/accessibility/>

Important Dates (See: [Fall 2020 Academic Calendar](#), [Registrar](#))

Date	Day	Event
September 1, 2020	T	First Day of Classes
September 5, 2020	S	Saturday Classes Begin
September 7, 2020	M	Labor Day
September 8, 2020	T	Monday Classes Meet
September 8, 2020	T	Last Day to Add/Drop Classes
November 9, 2020	M	Last Day to Withdraw
November 25, 2020	W	Friday Classes Meet
November 26-29, 2020	R - Su	Thanksgiving Recess - University Closed
December 10, 2020	R	Last Day of Classes
December 11 & 14, 2020	F & M	Reading Days

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 Functions	ex. 1, 2
	1.3	New Functions from Old Functions	ex. 1, 2, 3
2	2.2	The Limit of a Function	ex. 4, 6, 14, 16
	2.3	Calculating Limits Using the Limit Laws	ex. 12, 16, 18, 20
3	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
4	2.7	The Derivative as a Function	ex. 3, 4, 5, 6, 14, 15, 16
	3.1	Derivatives of Polynomials and Exponential Functions	ex. 3 - 28, 45, 49, 50,
5	3.2	The Product and Quotient 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
6	3.4	Chain Rule	ex. 7 - 29 odd, 37, 38
	3.5	Implicit Differentiation	ex. 3 - 16, 21 - 28
7		MIDTERM	
8	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
9	4.1	Related Rates	ex. 2 - 23 odd
	4.2	Minimum and Maximum Values	ex. 3, 5, 23, 25, 27, 29, 41 - 51 odd
10	4.3	Derivatives and Shapes of Curves	ex. 7 - 16, 21 - 26
	4.6	Optimization Problems	ex. 5, 6, 9 - 12, 14, 15, 18, 23, 40
11	4.8	Antiderivatives	ex. 1 - 47 odd
	5.1	Areas and Distances	ex. 1,2,3
12	5.2	The Definite Integral	ex: 5,
13	5.3	Evaluating Definite Integrals	ex: 1-27 odd
14	5.4	The Fundamental Theorem of Calculus	Ex: 7-18 All
15		REVIEW FOR FINAL EXAM	