

## **MATH 138-003: General Calculus I** *Fall 2018 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 A. Ionescu

**Office Hours for All Math Instructors:** [Fall 2018 Office Hours and Emails](#)

**Required Textbook:**

<b>Title</b>	<i>Calculus: Concepts and Contexts bundled w/ WebAssign</i>
<b>Author</b>	Stewart
<b>Edition</b>	4th
<b>Publisher</b>	Cengage
<b>ISBN #</b>	Web assign Bundle: 978-0538796859 Just WebAssign: 978-1285858265

**University-wide Withdrawal Date:** The last day to withdraw with a **W** is **Monday, November 12, 2018**. It will be strictly enforced.

### **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	15%
Midterm Exam I	25%
Midterm Exam II	25%
Final Exam	35%

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

Midterm Exam I	Week 6
Midterm Exam II	Week 11
Final Exam Period	December 15 - 21, 2018

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.

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## ADDITIONAL RESOURCES

**Math Tutoring Center:** Located in the Central King Building, Lower Level, Rm. G11 (See: **Fall 2018 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 or via email at [lyles@njit.edu](mailto:lyles@njit.edu). The office is located in Fenster Hall Room 260. 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:

- <http://www5.njit.edu/studentsuccess/disability-support-services/>

**Important Dates** (See: [Fall 2018 Academic Calendar](#), [Registrar](#))

Date	Day	Event
September 4, 2018	T	First Day of Classes
September 10, 2018	M	Last Day to Add/Drop Classes
November 12, 2018	M	Last Day to Withdraw
November 20, 2018	T	Thursday Classes Meet
November 21, 2018	W	Friday Classes Meet
November 22 - 25, 2018	R - Su	Thanksgiving Recess
December 12, 2018	W	Last Day of Classes
December 13 & 14, 2018	R & F	Reading Days
December 15 - 21, 2018	Sa - F	Final Exam Period

## 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	2.1	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	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
5	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,
6		Review for Exam 1	
		<b>EXAM 1</b>	

7	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
8	3.4	Chain Rule	ex. 7 - 30, 37, 38
	3.5	Implicit Differentiation	ex. 3 - 16, 21 - 28
9	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
10	4.1	Related Rates	ex. 2 - 23 odd
11		<b>REVIEW FOR EXAM 2</b>	
		<b>EXAM 2</b>	
12	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
13	4.6	Optimization Problems	Ex. 5, 6, 9 - 12, 14, 15, 18, 23, 40
	4.8	Antiderivatives	ex. 1 - 16, 19 - 26
14	5.1	Definite Integral	
15		<b>REVIEW FOR FINAL EXAM</b>	

*Updated by Professor A. Ionescu - 9/4/2018*  
*Department of Mathematical Sciences Course Syllabus, Fall 2018*

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