

MATH 545: Introductory Mathematical Analysis *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: Rigorous treatment of the calculus of real-valued functions of one real variable: the real number system, epsilon-delta theory of limit, continuity, derivative, and the Riemann integral. The fundamental theory of calculus. Series and sequences including Taylor series and uniform convergence. The inverse and implicit function theorems.

Number of Credits: 3

Prerequisites: **MATH 211** with a grade of C or better or **MATH 213** with a grade of C or better.

Course-Section and Instructors

Course-Section	Instructor
Math 545-001	Professor B. Hamfeldt

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

Required Textbook:

Title	<i>Introduction to Real Analysis</i>
Author	W. Trench
Edition	Digital Version
Publisher	Digital Commons@Trinity
ISBN #	---
For Digital Version	SEARCH <i>trench introduction to real analysis</i> for a pdf file

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

COURSE ASSESSMENT CRITERIA

Outcomes are assessed through class participation, homework assignments, two midterm exams, and a comprehensive final exam.

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%
Homework	20%
Midterm Exams (2)	40%
Final Exam	30%

Your final letter grade will be based on the following tentative curve.

A	90 - 100	C	70 - 75
B+	86 - 89	F	0 - 69
B	80 - 85		
C+	76 - 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.

Lectures: Class lectures will take place on Webex.

Quizzes: Brief unannounced quizzes will periodically be given during classtime and will be administered as a poll in Webex. Quizzes will be graded 50% on completeness and 50% on correctness.

Homework: Homework assignments will be given frequently. Assignments will be posted on Canvas. Each assignment must be submitted on Canvas before the beginning of classtime on the due date. Late assignments are NOT accepted. Solutions will be graded for correctness, completeness, and clarity.

Exams: There will be two midterm exams, held during classtime on October 8 and November 19, and one comprehensive final exam. All exams will be administered online using LockDown Browser and Respondus Monitor. Students must have access to a webcam during the exams.:

Midterm Exam I	October 8, 2020
Midterm Exam II	November 19, 2020
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/studentsuccess/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
December 15 - 21, 2020	T - M	Final Exam Period

Course Outline

Week	Dates	Topic
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1	9/1 and 9/3	1.1-1.2: Intro & mathematical induction
2	9/10 (no class 9/8)	1.3: Set Theory
3	9/15 and 9/17	2.1: Limits
4	9/22 and 9/24	2.2-2.3: Continuity and Differentiability
5	9/29 and 10/1	2.3-2.4: Mean Value Theorem and L'Hospital's Rule
6	10/6 and 10/8	REVIEW AND MIDTERM (OCTOBER 8)
7	10/13 and 10/15	2.5-3.1: Taylor's Theorem and Integrals
8	10/20 and 10/22	3.1-3.2: Integrals
9	10/27 and 10/29	3.3-3.4: Properties of the integral and improper integrals
10	11/3 and 11/5	4.1: Sequences
11	11/10 and 11/12	4.2-4.3: Sequences and series
12	11/17 and 11/19	REVIEW AND MIDTERM (NOVEMBER 19)
13	11/24 (no class 11/26)	4.3: Infinite series
14	12/1 and 12/3	4.4-4.5: Power series
15	12/8 and 12/10	EXTRA AND REVIEW

Updated by Professor B. Hamfeldt - 8/7/2020
Department of Mathematical Sciences Course Syllabus, Fall 2020
