Course Syllabus

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Course Syllabus for Math 151 – Fall 2025 Sections 34-36

Course Number and Name: 01:640:151 - Calculus I for the Mathematical and Physical Sciences

Canvas sites: Math 151 home page (https://rutgers.instructure.com/courses/356884/pages/math-151-home-page) , 2025FA - MATH 151 (All Sections) (https://rutgers.instructure.com/courses/375659)

Course Web Site: https://www.math.rutgers.edu/academics/undergraduate/courses/941-01-640-151-calculus-i-for-the-mathematical-and-physical-sciences (https://www.math.rutgers.edu/academics/undergraduate/courses/941-01-640-151-calculus-i-for-the-mathematical-and-physical-sciences)

Official List of Homework Problems: https://rutgers.instructure.com/courses/321445/pages/complete-list-of-math-151-homework-problems (https://rutgers.instructure.com/courses/375659/pages/complete-list-of-math-151-homework-problems) (see the 2025FA - MATH 151 (All Sections) (https://rutgers.instructure.com/courses/375659) Canvas site.

Lecturer Name, E-Mail and Office Hours:

- Tom Benhamou, tom.benhamou@rutgers,edu
- Wednesday 1-2 pm Hill 205

Recitation Instructor Name, E-Mail and Office Hours:

- Rasha Abadir, rga24@math.rutgers.edu (mailto:rga24@math.rutgers.edu)
- Virtual Office Hours, Friday 12:00 pm - 1:00 pm. Use this link (https://rutgers.zoom.us/my/rga24?pwd=Sk9yYUp2dmUyNFZrblBnWGlrc3pBQT09) to join my personal Zoom Room

Lectures: Lectures are in **LSH-A142 LIV** meetings on Monday and Wednesday from 7:30 pm to 8:50 EDT

Recitations: Recitations are in TIL-209 LIV as follows:

- Section 34 meets on Thursday from 3:50 pm to 5:10 pm
- Section 35 meets on Thursday from 5:40 pm to 7:00 pm
- Section 36 meets on Thursday from 7:30 pm to 8:50 pm

Midterm Exams and Final Exam: There will be three midterm exams and a final exam. All exams will be in-person, pencil-and-paper exams. The midterm exams will be 80-minute exams given at your normal lecture time and location on the date shown in the table below. The final exam will be a 3-hour

exam on **Monday, December 15, from 12-3pm**, at a location to be announced later in the semester. Attendance is required at all exams.

The Exam schedule (subject to change) is below. If changes are made, they will be announced by your lecturer or by the math department. Announcements will be made either through your lecturer's course Canvas site, or through the **2025FA - MATH 151 (All Sections) (https://rutgers.instructure.com/courses/375659)** Canvas site. The time of the **Midterms** is during the usual lecture time.

Exam	**Date/Time**	**Coverage**
Midterm Exam 1	10/01/2025	Sections 1.2 – 1.6, 2.1, 2.2, 2.4 – 2.6, 3.1, and 3.2
Midterm Exam 2	10/27/2025	Sections 2.6* and 3 – 3.11 *Yes, really! Section 2.6 is on both Exam 1 and Exam 2!
Midterm Exam 3	11/19/2025	Sections 4.1 – 4.6 and 4.8
Final Exam	Monday, December 15 12-3pm	Cumulative exam covering the entire course: - 1.2 through 1.6 - 2.1, 2.2, and 2.4 through 2.6 - 3.1 through 3.11 - 4.1 through 4.6, and 4.8 - 5.1 through 5.6

Exam Makeup Policy: Students who are unable to take an exam on the scheduled date should contact their lecturer as early as possible, and must provide justification (e.g., medical, religious, funeral, court appearance, etc.). Instructors may require appropriate verification of the reason for missing an exam (e.g., doctor's note, court summons, etc.). If absence from the exam is justified, the instructor will either schedule a makeup exam, or, if the instructor determines a makeup exam is not feasible, will use the final exam score as a basis to replace the missed exam. The final exam cannot be excused, and a student must take the final exam (or a makeup final exam); a student who does not take the final exam will fail the course, even if their average would otherwise be a passing grade.

Technology Requirements: This course has an online homework component that must be completed on a computer such as a Windows machine or a Mac. There are also assignments that require students to upload written work, which requires the capability either to take photos or scans of work on paper or to generate written work with a tablet and stylus. Please see the **recommended technology for Rutgers**

students (https://it.rutgers.edu/computer-recommendations-for-rutgers-students/) for recommendations on appropriate equipment, and the **Rutgers Student Tech Guide** (https://it.rutgers.edu/technology-guide/students/) for resources available to all students. If you do not have the appropriate technology for financial reasons, please email Dean of Students **deanofstudents@echo.rutgers.edu** (mailto:deanofstudents@echo.rutgers.edu) for assistance. If you are facing other financial hardships, please visit the Office of Financial Aid at **https://scarlethub.rutgers.edu/financial-services/office-of-financial-aid/** (https://scarlethub.rutgers.edu/financial-services/office-of-financial-aid/) .

SAS Core Curriculum Learning Goals: Math 151 fulfills Core Curriculum learning goals Quantitative Information (QQ) and Mathematical or Formal Reasoning (QR):

- Goal QQ: Formulate, evaluate and communicate conclusions and inferences from quantitative information.
- Goal QR: Apply effective and efficient mathematical or other formal processes to reason and to solve problems.

Department Learning Goals: More specifically, the course sets the following learning goals for each student:

- To acquire the ability to compute limits, derivatives and integrals of certain algebraic, trigonometric, exponential and logarithmic functions.
- To achieve understanding of the notions of continuity and differentiability.
- To develop the ability to use first and second derivatives to determine the shape of the graph of a function.
- To acquire practice solving optimization problems using calculus.

A more detailed set of learning goals for each section of the textbook can be found **at this link** (https://rutgers.instructure.com/courses/375659/pages/learning-goals-for-math-151-calculus-i-for-the-mathematical-and-physical-sciences) .

Academic Integrity: Students are expected to maintain the highest level of academic integrity. You should be familiar with the university **policy on academic integrity** (http://academicintegrity.rutgers.edu/) . Violations will be reported and enforced according to this policy. Use of external website resources such as Chegg.com, or AI sites such as ChatGPT or Google Gemini, to obtain solutions to assignments, quizzes, or exams is cheating and a violation of the University Academic Integrity policy. Cheating in the course may result in grade penalties, disciplinary sanctions or educational sanctions. Posting homework assignments, or exams, to external sites without the instructor's permission may be a violation of copyright and may constitute the facilitation of dishonesty, which may result in the same penalties as plain cheating. The Rutgers honor pledge will be included on all (major) assessments for you to sign: ***On my honor, I have neither received nor given any unauthorized assistance on this examination (assignment).***

Textbook: Thomas' Calculus: Early Transendentals, 15th ed., by Joel Hass, Christopher Heil, Przemyslaw Bogacki and Maurice Weir, published by W. H. Freeman & Co. ISBN: 978-0137559756

(MyLab Math access code with e-text only) or ISBN: 978-0137560103 (MyLab Math access code with prepaid text that will be shipped to you from Pearson).

Online Homework Software: MyLab Math (**https://mlm.pearson.com/northamerica/** (https://mlm.pearson.com/northamerica/))

Attendance: Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website **https://sims.rutgers.edu/ssra/** (https://sims.rutgers.edu/ssra/) to indicate the date and reason for your absence. An email is automatically sent to the instructor. Please note: make-ups for assignments are not given except in circumstances required by University policy. It is the student's responsibility to notify their instructor as soon as possible if a conflict or emergency occurs that interferes with the student taking the scheduled assignment.

Course Structure and Requirements: A weighted course average will be calculated for each student based on the following weights:

Midterm Exam #1	16 %		Final Exam	32 %
Midterm Exam #2	16 %		Online Homework	5 %
Midterm Exam #3	16 %		Recitation assignments and quizzes	15 %
TOTAL: 100%				

Your weighted course average will be used to assign a course grade. The **Math 151 grading policy** (https://rutgers.instructure.com/courses/375659/pages/grading-policy-for-math-151) is available on the Math 151 All Sections Canvas page, and it explains how the weighted course average is used to assign each student a grade.

Lecture Participation and Pre-Lecture Assignments: At the option of the lecturer, students may be given a participation grade based on their level of participation in class discussion during lectures, or completion of pre-lecture assignments. Participation may be assessed by methods such as participation in polls during class, submission of solutions to problems given in class or prior to class, or any other appropriate method. Participation and pre-lecture assignments may be counted as one or more recitation assignments or quiz scores.

Online Homework: Students will be required to complete online homework each week. The number times online homework will be due per week will vary by instructor. The schedule of due dates is available on **MyLab Math** (https://mlm.pearson.com/northamerica/) . There is homework for each required section of the textbook. The online homework grade will be the average grade on the homework assignments after the 3 lowest grades have been dropped. MyLab will award 50% for MyLab homework that is up to 24 hours late, and 0% for anything submitted later.

Recitations: During the recitation meeting, you will work together with 3-4 other students. The emphasis will be on problem-solving strategies and multi-step problems. This small-group work will be directed by the recitation instructor for our course. You will also be assisted by an undergraduate learning assistant. A typical recitation may consist of one or more of: a pre-class assignment, group work that requires an individual submission of a solution at the end of the recitation (or shortly afterwards), and/or a short 15-20 minute quiz. Your instructor will tell you which of these items are required for a given recitation.

Student Disability Services: Students with disabilities requesting accommodations must follow the procedures outlined at **https://ods.rutgers.edu/students/getting-registered (https://ods.rutgers.edu/students/getting-registered)** . Full disability policies and procedures are at **https://ods.rutgers.edu/ (https://ods.rutgers.edu/)** .

Topic Schedule: A list of class meetings and topics is given in the table below. The table provides a tentative schedule. The instructor is allowed to make minor changes in topic order, but these topics must be discussed in lecture during the semester.

Lecture	Sections	Topics
1	2.1	Introduction to limits; numerical estimation of limits; velocity as a limit
2	1.2 - 1.6	Review of selected pre-calc topics including composite functions, trig and exponential functions; logarithms; inverse trig functions
3	2.2	Limit laws, indeterminate forms, and the Sandwich Theorem
4	2.4	One-sided limits
5	2.5	Continuity and the Intermediate Value Theorem
6	2.6	Limits involving infinity; asymptotes of graphs
7	3.1, 3.2	Definition of derivative at a point and as a function
8	3.3	Differentiation rules
9	**Midterm Exam #1: Sections 1.2 – 1.6, 2.1, 2.2, 2.4 – 2.6, 3.1, and 3.2 (approximate date and section coverage; your lecturer will tell you the actual date and topic coverage)**	
10	3.4, 3.5	Rates of change; derivatives of trigonometric functions
11	3.6, 3.7	Chain rule; implicit differentiation
12	3.8, 3.9	Derivatives of inverse functions and logarithms; inverse trigonometric functions and their derivatives
13	3.10	Related rates
14	3.11	Linearizations and differentials
15	4.1	Extreme values of functions on closed intervals
16	**Midterm Exam #2: Sections 2.6* and 3.3 – 3.11 [*Yes, really! Section 2.6 is covered both in Exam 1 *and* Exam 2!]**	

	(approximate date and section coverage; your lecturer will tell you the actual date and topic coverage)	
17	4.2, 4.3	The Mean Value Theorem; Monotonic functions and the First Derivative Test
18	4.4	Concavity and curve sketching
19	4.5	Indeterminate forms and L'Hôpital's Rule
20	4.6	Applied optimization
21	4.8	Antiderivatives
22	5.1, 5.2	Area and estimating with finite sums; sigma notations and limits of finite sums
23	**Midterm Exam #3: Sections 4.1 – 4.6 and 4.8 (approximate date and section coverage; your lecturer will tell you the actual date and topic coverage)**	
24	5.3	The definite integral (focus on regular partitions)
25	5.4	The Fundamental Theorem of Calculus
26	5.5	Indefinite integrals and the substitution method
27	5.6	Definite integral substitutions and area between curves
28		Catch up and review
Monday December 15, 12:00-3:00pm: Final Exam — covers *entire* course (the material from all three midterms, *plus* the material covered after the last midterm)		

Student-Wellness Services:

- **Counseling, ADAP & Psychiatric Services (CAPS): (848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ http://health.rutgers.edu/medical-counseling-services/counseling/ (http://health.rutgers.edu/medical-counseling-services/counseling/) .** CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professionals within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community, and consultation and collaboration with campus partners.
- **Crisis Intervention : https://health.rutgers.edu/medical-and-counseling-services/counseling-services/student-resources (https://health.rutgers.edu/medical-and-counseling-services/counseling-services/student-resources)**
- **Report a Concern: http://health.rutgers.edu/do-something-to-help/ (http://health.rutgers.edu/do-something-to-help/)**
- **Violence Prevention & Victim Assistance (VPVA): (848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / https://vpva.rutgers.edu/ (https://vpva.rutgers.edu/) .** The Office for

Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

- **Disability Services:** **(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 /** **https://ods.rutgers.edu/ (https://ods.rutgers.edu/)** . Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: **https://ods.rutgers.edu/students/documentation-guidelines (https://ods.rutgers.edu/students/documentation-guidelines)** . If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: **https://ods.rutgers.edu/students/registration-form. (https://webapps.rutgers.edu/student-ods/forms/registration)**

Course Summary:

Date	Details	Due
Fri Sep 5, 2025	Recitation Assignment 1 (https://rutgers.instructure.com/courses/356884/assignments/3905138)	due by 11:59pm
Tue Sep 9, 2025	Section 2.1 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867891)	due by 11:59pm
Thu Sep 11, 2025	Quiz 1 (https://rutgers.instructure.com/courses/356884/assignments/3943651)	due by 8:50pm
Fri Sep 12, 2025	Recitation Assignment 2 (https://rutgers.instructure.com/courses/356884/assignments/3943650)	due by 11:59pm
	Section 1.2, 1.3, 1.5 HWK (composite functions, trig and exponential functions) (https://rutgers.instructure.com/courses/356884/assignments/3867889)	due by 11:59pm

Date	Details	Due
	Section 1.6 HWK (inverse trig, logs, and other inverses) (https://rutgers.instructure.com/courses/356884/assignments/3867890)	due by 11:59pm
Sun Sep 14, 2025	Section 2.2 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867893)	due by 11:59pm
Tue Sep 16, 2025	Section 2.4 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867892)	due by 11:59pm
Thu Sep 18, 2025	Quiz 2 (https://rutgers.instructure.com/courses/356884/assignments/3950715)	due by 8:50pm
Fri Sep 19, 2025	Recitation Assignment 3 (https://rutgers.instructure.com/courses/356884/assignments/3950666)	due by 11:59pm
Sun Sep 21, 2025	Section 2.5 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867894)	due by 11:59pm
Tue Sep 23, 2025	Section 2.6 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867896)	due by 11:59pm
Thu Sep 25, 2025	Quiz 3 (https://rutgers.instructure.com/courses/356884/assignments/3956444)	due by 8:50pm
Fri Sep 26, 2025	Recitation Assignment 4 (https://rutgers.instructure.com/courses/356884/assignments/3956443)	due by 11:59pm
Sun Sep 28, 2025	Section 3.1 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867895)	due by 11:59pm
	Section 3.2 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867897)	due by 11:59pm
Tue Sep 30, 2025	Section 3.3 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867899)	due by 11:59pm
Thu Oct 2, 2025	Quiz 4 (https://rutgers.instructure.com/courses/356884/assignments/3961809)	due by 7pm

Date	Details	Due
Fri Oct 3, 2025	Recitation Assignment 5 (https://rutgers.instructure.com/courses/356884/assignments/3961811)	due by 11:59pm
Tue Oct 7, 2025	Section 3.4 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867898)	due by 11:59pm
	Section 3.5 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867900)	due by 11:59pm
Thu Oct 9, 2025	Quiz 5 (https://rutgers.instructure.com/courses/356884/assignments/3967569)	due by 8:50pm
Fri Oct 10, 2025	Recitation Assignment 6 (https://rutgers.instructure.com/courses/356884/assignments/3967567)	due by 11:59pm
Sun Oct 12, 2025	Section 3.6 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867902)	due by 11:59pm
	Section 3.7 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867901)	due by 11:59pm
Tue Oct 14, 2025	Section 3.8 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867903)	due by 11:59pm
	Section 3.9 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867905)	due by 11:59pm
Thu Oct 16, 2025	Quiz 6 (https://rutgers.instructure.com/courses/356884/assignments/3974356)	due by 8:50pm
Fri Oct 17, 2025	Recitation Assignment 7 (https://rutgers.instructure.com/courses/356884/assignments/3974354)	due by 11:59pm
Sun Oct 19, 2025	Section 3.10 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867904)	due by 11:59pm
Tue Oct 21, 2025	Section 3.11 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867906)	due by 11:59pm
Sun Oct 26, 2025	Section 4.1 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867908)	due by 11:59pm

Date	Details	Due
Sun Nov 2, 2025	Section 4.2 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867907)	due by 11:59pm
	Section 4.3 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867909)	due by 11:59pm
Tue Nov 4, 2025	Section 4.4 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867911)	due by 11:59pm
Sun Nov 9, 2025	Section 4.5 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867910)	due by 11:59pm
Tue Nov 11, 2025	Section 4.6 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867912)	due by 11:59pm
Sun Nov 16, 2025	Section 4.8 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867914)	due by 11:59pm
Tue Nov 18, 2025	Section 5.1 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867913)	due by 11:59pm
	Section 5.2 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867915)	due by 11:59pm
Tue Nov 25, 2025	Section 5.3 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867917)	due by 11:59pm
Tue Dec 2, 2025	Section 5.4 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867916)	due by 11:59pm
Sun Dec 7, 2025	Section 5.5 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867918)	due by 11:59pm
Tue Dec 9, 2025	Section 5.6 HWK (https://rutgers.instructure.com/courses/356884/assignments/3867919)	due by 11:59pm