

21:640:135/Calculus I/Spring 2009

Lectures: MW 10–11:30, Ackerson 123

Section	Time	Room
01	F 9–9:50	Smith B23
02	F 10–10:50	Smith B23
03	F 12–12:50	Smith B23
04	F 1–1:50	Smith B23
05	F 2:30–3:20	Smith B23

Recitations:

Instructor: John Randall, Smith 305, (973)353-3919,
randall@rutgers.edu. Office hours: M 2:30–4, WTh 11:30–1.

Teaching Assistant: Hetal Kapadia, Smith 232, (973)353-7819,
hetalk@andromeda.rutgers.edu.

Textbook: Varberg, Purcell & Rigdon, *Calculus*, 9th edition. Prentice Hall (2007). ISBN 0-13-142924-8.

Web Site: <http://pegasus.rutgers.edu/~randall/135>. Grades will be posted on Rutgers Blackboard.

Prerequisite: Precalculus (Math 114)

Grades: There will be two midterm exams (20% each), a cumulative final exam (40%), and weekly quizzes (20% in total).

Important Dates

Tue	Jan	20	Classes begin
Mon	Jan	26	Last day to drop a course without a W
Tue	Jan	27	Last day to add a course
Mon	Mar	2	Exam #1
Sat	Mar	14	Spring Break begins
Sun	Mar	22	Spring Break ends
Mon	Mar	30	Last day to drop a course with a W
Mon	Apr	13	Exam #2
Mon	May	4	Classes end
Thu	May	7	Final exams begin
Mon	May	11	Final Exam, 8:30–11:30 (tentative)
Wed	May	13	Final exams end

Topics

The following topics will be covered, not necessarily in the order given. In particular, the material from Chapter 2 (Limits) will be integrated into the discussion of the derivative and its applications. Elementary material will be reviewed as necessary. Numbers in parentheses refer to relevant sections of the textbook.

Limits (1.1–1.6): basic ideas, limit theorems, trigonometric limits, infinite limits, limits at infinity, continuity.

The derivative (2.1–3.9): tangent line, instantaneous velocity, the derivative, rules for finding derivatives, trigonometric derivatives, the chain rule, Leibniz notation, higher order derivatives, implicit differentiation, related rates.

Applications of the derivative (3.1–3.9): maxima and minima, monotonicity, concavity, graphing, the mean value theorem, antiderivatives, differential equations.

The integral (4.1–4.5): Area, definite integrals, theorems for the integral, evaluation of definite integrals.

Transcendental functions (6.1–6.3, 6.5): The natural logarithm and exponential functions; exponential growth and decay.

Attendance Policy

Students are expected to attend all classes and to complete all assignments. No makeups will be given for quizzes. No makeups will be given for exams except for absences due to the recognized grounds described in the catalog.