

# Calculus I, Math-1010-(Sections 1,2,3,4,21,22,23,24), Fall 2011

**Instructor:** Bruce Piper (Prof. Piper), piperb@rpi.edu, 276-6892, Office: Amos Eaton 309  
Office Hours: Thursdays 1:00-3:00 and by appointment. (Check the course web page for updates)

**Teaching Assistants:** Devin Kapper, Joe Rosenthal, Michael McClure, Alex Chaney.  
Please check the course web page for their latest office hours.

**Text::** *Thomas Calculus, Early Transcendentals, 12th Edition* (Required)

**Course Web Page:** <http://homepages.rpi.edu/~piperb/calculus1/>

Visit this page several times a week throughout the course to check the daily schedule, office hours, study guides, homework, and for any updates.

**Objectives/Topics** Calculus I will cover limits, derivatives, applications of derivatives, definite integrals, indefinite integrals, the fundamental theorem of Calculus, basic integration techniques and applications of integrals.

**Student Learning Outcomes:** Upon successfully completing the courses, students will be able to demonstrate:

- basic symbol manipulation skills.
- the ability to convert between Calculus concepts and their graphical, numerical and symbolic representations.
- the ability to make Calculus models of applied problems described in words.
- the ability to solve basic Calculus problems that model real world situations and recover the solutions.
- the ability to apply Calculus to selected problems in science, engineering and mathematics.
- the ability to apply certain fundamental theorems and rules from Calculus to solve symbolic and graphical problems.
- the ability to state and explain basic Calculus definitions and theorems and their applications.
- the ability to use, derive and/or prove some of the basic Calculus concepts, definitions and theorems.

**Lectures:** The lectures will go over the major concepts and examples. Students should read the text to complete their understanding. Part of the lecture notes will appear on the web page, the rest will be delivered only in class. Exams will contain essay and short answer questions that are covered in lecture.

**iClickers** There will be iClicker questions in most classes. Students can get up to 2% extra credit by getting 3/4 of the iClicker questions correct.

**Recitations:** During the recitations, the teaching assistant will go over problems and ask you to work problems. During approximately the first half of the semester, the problems students work in recitations will be handed in for 4% of the course grade.

**PreCalculus Quiz:** The problems on this quiz will be graded on no-partial-credit basis and, like all quizzes and exams in Calculus, calculators will not be allowed. This quiz will be worth extra credit.

**Quizzes:** Quizzes will be given in your the quiz block section, Math 1960 and worth 20% of the Calculus grade. **All students in Math-1010 must register for Math-1960 and go every week.** There will be no calculators allowed on the quizzes. Quiz questions are drawn from the set of Calculus I skills problems at <http://calculus.math.rpi.edu> under the Calculus I tab. The weekly schedule for when quizzes occur will be given out in each individual quiz block section. The quizzes are over material that students should remember throughout this course and beyond. The quizzes will be graded on a no-partial-credit basis.

**In-class Exams:** There will be 4 in-class exams and, like all exams and quizzes in Calculus, there will be no calculators allowed. Partial credit will be given. There is a study guide for each exam posted on the course web page. As posted on the daily schedule on the course web page, the exams will be on the dates: *9/20, 10/18, 11/08, 12/06*

**Note: Exam 1 is Tuesday September 20th**

**Study Guides:** Study guides for the exams will be available on the course web page. It is important to do these questions as they are covered in class as there will likely be far too many questions to prepare for the exam if students wait.

**Final Exam:** The final exam will be comprehensive, over all aspects of the course, and like all exams and quizzes in Calculus, there will be no calculators allowed. The exam will be of the same format as the in-class exams.

**Mock Exam:** There will be an optional mock exam on Saturday, September 10th. This exam will cover the same material as exam 1. The exam will not be suitable for a study guide for exam 1, but students taking this mock exam may be able to get a sense of how well they are prepared for exam 1.

**Attendance:** Missing an exam or a quiz results in a grade of zero and cannot be made up. Exceptions will be granted only for excused absences with proper supporting documentation. All students must take the final exam as scheduled by the registrar. Missing lectures or recitations has a negative impact on student exam scores based on past statistics.

**Academic Integrity:** Student-teacher relationships are built on trust. Acts, which violate this trust, undermine the educational process. The Rensselaer Handbook of Student Rights and Responsibilities defines various forms of Academic Dishonesty and you should make yourself familiar with these. Students are encouraged to work together outside of class on homework and on study question. Exams and quizzes must be taken individually and cheating will result in a grade of zero and a report to the Dean of Students. Repeat offenders will fail the class. Any student resubmitting a quiz or exam for regrading with changed answers will fail the class. Note that graded material is scanned and recorded before it is returned.

**Grades:** The quizzes, exams and final exams will be weighted as follows:

Quiz grade from the Quiz Block	20%
4 In-Class Exams	56%
In-Class Recitation Homework	4%
Final Exam	20%
In-class iClicker participation (Extra Credit)	Up to 2%
PreCalculus Quiz (Extra Credit)	up to 1%

Using these weights and the percentages for each item, the final course score will be computed and then based on this score, letter grades will be assigned as follow: 93% + is an A; 90%-92% is an A-; 87%-89% is a B+; 83%-86% is a B; 80%-82% is a B-; 77%-79% is a C+; 73%-76% is a C; 70%-72% is a C-; 65%-69% is a D+; 60%-64% is a D; 0%-59% is a F.

**Weekly Schedule** Please check the course web page.

**Study Guide for Exam 1:** Please check the course web page at <http://homepages.rpi.edu/~piperb/calculus1/>