

## Calculus I (150-301)

**Quarter:** Spring 2013  
**Time:** TTH 8 – 9:30; F 8 -- 9  
**Campus:** LPC  
**Room:** Levan 404  
**Term:** 0910  
**Course Number:** 31386

**Instructor:** Ash, J.M.

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**Office Hours:** Tu 1:30-3, Th 9:40-11:10, also by appointment

## Prerequisites

MAT 131 or placement by the Mathematics Diagnostic Test. Prerequisites are strictly enforced by the Math Department. A prerequisite can only be waived by the approval of the instructor and the department chair.

## Textbooks and other materials

*Thomas' Calculus* 12th Edition, by G.B.Thomas,Jr., M.D.Weir, and J.Hass, Pearson, 2010. ISBN 0-321-63742-9 (or, if you intend to also take second year calculus, 0-321-58799-5). A scientific calculator such as any TI with model number between TI81 and TI 84 Plus is required.

## Summary of Course

### Limits and Continuity

- 2.1 Rates of Change and Tangents to curves
- 2.2 Limit of a Function and Limit Laws
- 2.4 One-Sided Limits
- 2.5 Continuity
- 2.6 Limits Involving Infinity: Asymptotes of Graphs

### Differentiation

- 3.1 Tangents and the Derivative at a Point
- 3.2 The Derivative as a Function
- 3.3 Differentiation Rules
- 3.4 The Derivative as a Rate of Change
- 3.5 Derivatives of Trigonometric Functions
- 3.6 The Chain Rule
- 3.7 Implicit Differentiation
- 3.9 Linearization and Differentials
- 4.6 Newton's Method

### Applications of the Derivative

- 4.1 Extreme Values of a Function
- 4.2 The Mean Value Theorem
- 4.3 Monotonic Functions and the First Derivative Test
- 4.4 Concavity and Curve Sketching
- 4.5 Applied Optimization

## **Homework and Grading Policy**

Midterm and final exams, in class and closed book will count equally in determining a preliminary grade. Homework will be assigned each class day, discussed the next class day, collected the next class day and will increase or decrease the preliminary grade by at most one grade. Friday quizzes will count the same as homework. Example 1: B+ , satisfactory homework, and satisfactory quizzes = A. Example 2: B+ , satisfactory homework, and unsatisfactory quizzes = B+. Make-up exams will not be given. The final exam will be from 8:45-11:00 on Thursday, June 13, 2013.

## **Methods**

Classroom lectures and discussion.

## **DePaul University's Academic Integrity Policy**

Students must abstain from any violations of academic integrity and set examples for each other by assuming full responsibility for their academic and personal development, including informing themselves about and following the university's academic policy. Violations of academic integrity include but are not limited to the following categories: cheating; plagiarism; fabrication; falsification or sabotage of research data; destruction or misuse of the university's academic resources; alteration or falsification of academic records; and academic misconduct. Conduct that is punishable under the Academic Integrity Policy could result in additional disciplinary actions by other university officials and possible civil or criminal prosecution. To review the complete Academic Integrity Policy of the University, please go to <http://tinyurl.com/cv2c8xo>.

## **Students with Disabilities**

Students who feel they may need an accommodation based on the impact of a disability should contact me privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact me as early as possible in the quarter (preferably within the first two weeks of class), and make sure you have contacted the Center for Student Disabilities at 773-325-1677 in Student Center 370.