

## Math 192-Calculus I-Fall 2013

### General Information

<b>Name</b>	Dr. Voldman	<b>Textbook/Author</b>	Calculus 7 <sup>th</sup> edition by Stewart
<b>Office</b>	Room 2764	<b>Chapters Covered</b>	2,3,4, and 5
<b>Phone</b>	355-6299	<b>Office Hours: MW 7:45-8:15, 10:00-10:30, TTH 9:00-10:00</b>	Time: MWF 8:15-9:50 CRN: 10671 Credit Units: 5
<b>E-mail</b>	alex.voldman@imperial.edu	IVC Prerequisite with C or better	Pre-calculus -Math 190

### Grading Scale

<b>90-100%</b>	<b>A</b>	<b>80-89%</b>	<b>B</b>	<b>70-79%</b>	<b>C</b>	<b>60-69%</b>	<b>D</b>	<b>0-59%</b>	<b>F</b>
----------------	----------	---------------	----------	---------------	----------	---------------	----------	--------------	----------

### Grade Distribution

<b>Project</b>	<b>Homework</b>	<b>Exams</b>	<b>Final</b>
<b>100 points</b>	<b>100 points</b>	<b>400 points</b>	<b>200 points</b>

<b>Project</b>	<b>10%</b>
<b>Homework</b>	<b>10%</b>
<b>Exams</b>	<b>60%</b>
<b>Final</b>	<b>20%</b>

### General Guidelines

1. Late work (homework, projects, etc.) is not accepted	5. Bring your book, ruler to class every day
2. School policy: No food or beverages are allowed in the classroom	6. It is your responsibility to drop before the W deadline
3. Missed assignments are recorded as zeros	7. It is your responsibility to keep notes, syllabus, handouts
4. School policy: No children are allowed in the classroom	

### Course Description:

Concepts dealing with limits, derivatives, optimization problems and integration will be covered.

### Student Learning Outcomes:

Be able to use substitution to find the anti-derivative of a composite function.

Demonstrate ability to anti-differentiate simple functions.

Be able to set up and solve optimization problems of a single variable.

Be able to compute limits for simple functions.

Be able to apply the chain rule for a function of a single variable.

### Course Objectives:

Demonstrate skills in understanding the concept of limit and be knowledgeable in finding limits.

Demonstrate an understanding and a working knowledge of the derivative.

Demonstrate proficiency in problem solving when dealing with applications of differentiation.

Demonstrate knowledge in anti-differentiation.

Demonstrate an understanding and a working knowledge of the definite integral.

Demonstrate a thorough understanding of logarithmic and exponential functions, and their use in applications dealing primarily with growth and decay phenomena.

Demonstrate the ability to deal with trigonometric, inverse trigonometric and hyperbolic functions and many common applications thereof.

### Attendance and Absences:

If you are 5 minutes late you will be marked absent. Do not make doctor, counseling, or any appointments during class time. Leaving during lecture will be considered an unexcused absence. If you have to leave anytime during class, other than established break times, you must inform your instructor. After the third unexcused absence, you will be dropped from the class. In other cases, it is your responsibility to drop yourself before the withdrawal deadline. Disruptive and inconsiderate behavior will not be tolerated! Roll will be taken at the beginning/ end of the class.

### Cheating and Plagiarism

Dishonesty in the classroom is considered a very serious offense. Evidence of cheating will result in a zero grade for that exam and possible disciplinary action. The consequences of these actions are severe and may include the possibility of expulsion.

**Silence pagers and cell phones.** Use of cell phones in the class room will not be permitted; you should not bring one into the classroom unless the ringer is turned OFF.

### Project

Purpose: To introduce technology (MATLAB)

Place to work on the project: MATHLAB (Building 2500)

**No late project will be accepted!**

## Midterms

Purpose: To evaluate your understanding of the material covered in the course.

**Final Exam** (comprehensive)

### Learning Resources

1. Me: Office Hours, just walk-in and get help. Appointment hours; you must give at least one day advance notice
2. Tutorial services: Library, Vocational Education Building Room 1701
3. Study Guides: The bookstore has textbooks for sale

**Any student with a documented disability who may need educational accommodations should notify the instructor or DSPS office as soon as possible (DSP&S, Room 2117, Health Sciences Building, (760) 355-6312**

## Schedule

Week 1

Orientation

Tangent and velocity problem (2.1)

Introduction to Limits (2.2-2.4)

Limits and continuity (2.5)

Week 2

Limits at infinity (2.6)

Derivative of a function (2.7-2.8)

Week 3

### Monday-Holiday

Derivatives of polynomial and exponential functions (3.1)

The product and quotient rule (3.2)

Week 4

Derivatives of trigonometric functions (3.3)

The Chain rule (3.4)

### Exam I -Friday

Week 5

Implicit differentiation and derivatives of inverse trigonometric functions (3.5)

Derivative of logarithmic functions (3.6)

Week 6

Applications (Rates of Change, Exponential Growth and Decay) (3.8)

Week 7

Applications (Related rates) (3.9)

### Exam II-Friday

Week 8

Linear approximations and differentials (3.10)

Hyperbolic functions (3.11)

Week 9

Maximum and minimum values (4.1)

The mean value theorem (4.2)

Week 10

Derivatives and graphs (4.3)

L'hospital's rule (4.4)

Week 11

Optimization problems (4.7)

Week 12

Newton's method and antiderivatives (4.8-4.9)

### Exam III-Friday

Week 13

### Monday-Holiday

Area problem and definite integral (5.1-5.2)

The fundamental theorem of calculus and indefinite integrals (5.3-5.4)

Week 14

Indefinite Integrals (5.4)

The substitution rule (5.5)

Week 15

### Exam IV-Monday

### Review

Week 16

### Final

Note: I reserve the right to change this schedule with notification to students