

VICTOR VALLEY COLLEGE SYLLABUS

FALL 2007

Course No.: **Math 226**

Course Title: **Calculus I**

Units: **5 units**

Section No.: **16576**

Class Hours: **5:30 – 8:00 PM**

Days: **MW**

Room: **30 - 6**

Instructor Name: **Michael Butros**

Office No: **LA – A1**

Office Hours: **Monday 1:30 – 2:30, Tuesday 1:30 – 2:30, Wednesday 3:00 – 5:00,
Friday 10:00 – 11:00, other times available by appointment**

Telephone: **(760) 245 – 2471 x 2506**

E-mail: **butrosm@vvc.edu**

Instructor URL: **<http://www.butros.info/Michael.html>**

FALL CALENDAR

Fall Semester Begins

August 27

Labor Day Holiday (no classes)

September 3

End of 1st 8-week term

October 20

Beginning of 2nd 8-week term

October 22

Veteran's Day Holiday (no classes) November 12

Thanksgiving Holidays (no classes) November 22-25

Fall Semester Ends

December 15

WITHDRAWAL POLICY

**Last day to withdraw from a 16-week class
and receive a "W" is November 5, 2007.**

Prerequisite: Successful completion of Math 104 (Trigonometry) and Math 105 (College Algebra)

Textbook: Calculus 8th Edition, Larson, Hostetler, and Edwards

Course Description: This class offers an introduction to the calculus of single variables. Topics covered include limits, using limits of functions to determine continuity, finding derivatives and integrals, basic properties of derivatives and integrals, the relationship between derivatives and integrals as given in the Fundamental Theorem of Calculus, and applications.

Course Objectives:

The student will be able to:

- Compute the Limit of a Function, if it exists, Using Limit Laws
- Determine Whether a Function is Continuous
- Differentiate Explicit and Implicit Functions
- Recognize and Apply Differentiation Rules
- Obtain the Equation of the Tangent Line
- Find Maximum and Minimum Values of a Function
- Evaluate Limits of Functions at Infinity

- Determine Indefinite Integrals of Functions
- Evaluate the Definite Integral of Functions
- Compute the Area Between Two Curves
- Compute the Volume of a Solid
- Solve Application Problems Using Differentiation and Integration

Course Content

❖ Limits and Rates of Change

- Introduction to Limits
- Properties of Limits
- Techniques for Evaluating Limits
- One-Sided Limits
- Using Limits to Determine Continuity
- Rates of Change
- Difference Quotients
- The Velocity Problem

❖ Differentiation

- The Derivative
- The Tangent Line Problem Using Derivatives
- Basic Differentiation Rules
- The Product Rule
- The Quotient Rule
- Higher Order Derivatives
- The Chain Rule
- Implicit Differentiation
- Related Rates

❖ Applications of Differentiation

- Minimum and Maximum Points
- The Mean Value Theorem
- Limits at Infinity
- Increasing and Decreasing Functions
- The First Derivative Test
- Concavity and The Second Derivative Test
- A summary of Curve Sketching
- Optimization Problems
- Newton's Method
- Differentials

❖ Integration

- Anti-Derivatives and Indefinite Integration
- Area Under a Curve
- Riemann Sums and Definite Integrals
- The Fundamental Theorem of Calculus
- Integration by Substitution
- Numerical Integration

❖ Applications of Integration

- Area of a Region Between Two Curves
- The Average Value of a Function
- The Volume of a Solid Using The Disc Method
- The Volume of a Solid Using The Shell Method
- Arc Length
- Area of Surface of Revolution
- Work

Attendance Policy: **Regular attendance is strongly recommended.** *(Class attendance is not a measure of performance or proficiency. Whether a student is just physically present in the class is not a valid basis for grading. Reference Title 5 Section 55002 of the California Code of Regulations: (A) Grading Policy. The course provides for measurement of student performance in terms of stated course objectives and culminates in a formal, permanently recorded grade based upon uniform standards in accordance with section 55758 of this Division. The grade is based on demonstrated proficiency in the subject matter and the ability to demonstrate that proficiency, at least in part, by means of written expression that may include essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students.)*

Grading Policy: The grading for this class will consist of the following components:

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|--------------|------|
| • Homework | 10 % |
| • Quizzes | 10 % |
| • Exam One | 15 % |
| • Exam Two | 15 % |
| • Exam Three | 15 % |
| • Exam Four | 15 % |
| • Final | 20 % |

The final grade will be given according to the following scale

Total Percentage	Final Grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

IMPORTANT NOTE: Students with disabilities, whether physical, learning, or psychological, who believe that they may need accommodations in this class, are encouraged to contact Disabled Student Program & Services as soon as possible to ensure that such accommodations are implemented in a timely fashion. Authorization from DSPS is required before any accommodation can be made.

Tentative Schedule for Math 226
Fall 2007
Butros

DAY	DATE	TOPICS
Monday	8/27/07	Introduction, P.1
Wednesday	8/29/07	P.2, P.3 and P.4
Monday	9/3/07	No Class Meeting
Wednesday	9/5/07	1.1 and 1.2 - Quiz One
Monday	9/10/07	1.3, 1.4 and 1.5
Wednesday	9/12/07	Review for Exam One
Monday	9/17/07	Exam One
Wednesday	9/19/07	2.1 and 2.2
Monday	9/24/07	2.3 and 2.4 – Quiz Two
Wednesday	9/26/07	2.5 and 2.6
Monday	10/1/07	Review for Exam Two
Wednesday	10/3/07	Exam Two
Monday	10/8/07	3.1 and 3.2
Wednesday	10/10/07	3.3 and 3.4
Monday	10/15/07	3.5 and 3.6 – Quiz Three
Wednesday	10/17/07	3.7 and 3.8
Monday	10/22/07	3.9
Wednesday	10/24/07	Review for Exam Three
Monday	10/29/07	Exam Three
Wednesday	10/31/07	4.1 and 4.2
Monday	11/5/07	4.5 and 4.6
Wednesday	11/7/07	7.1 - Quiz Four
Monday	11/12/07	No Class Meeting
Wednesday	11/14/07	Review for Exam Four
Monday	11/19/07	Exam Four
Wednesday	11/21/07	7.2 and 7.3
Monday	11/26/07	7.4 and 7.5
Wednesday	11/28/07	7.6 – Quiz Five
Monday	12/3/07	7.7
Wednesday	12/5/07	Review for Final Exam
Monday	12/10/07	Review for Final Exam
Wednesday	12/12/07	Final Exam

Class Conduct Policies:

- Anyone caught cheating will receive an “F” for the course and I will also pursue **THE STRONGEST DISCIPLINARY ACTION AVAILABLE AT THE COLLEGE**
- **ONLY** those registered in the class are allowed in the classroom
- **TURN OFF** the sound feature on your cell phone or pager before class begins
- When you turn in your homework assignments **MAKE SURE THE ITEMS BELOW ARE SATISFIED:**
 1. Include your name and class
 2. Include the assignment number and due date
 3. The problems are done in order
 4. The pages are stapled (if it requires more than one page)

The first time these conditions are not satisfied will be a warning. Thereafter any time an assignment is missing the above information will result in points lost

- You are encouraged to work with each other on the homework assignments but each student should turn in their own assignment
- All assignments and exams are to be completed on the assigned date. **THERE WILL BE NO MAKE UP HOMEWORK ASSIGNMENTS OR EXAMS.** Inform the instructor if you are going to miss a class on a day when an exam or an assignment is due
- You are **ENCOURAGED** to ask questions in class
- Make sure you contact the instructor if you have any questions regarding the class