# Math 111
## Spring, 1993

Text: <u>Calculus with Analytic Geometry</u> (6th Edition) by
Varberg and Purcell

I.    Grading

|  |  |
|---|---|
| 4 tests (100 pts. each) | 400 pts |
| 5 quizzes (20 pts. each) | 100 |
| Exam | <u>200</u> |
|  | 700 pts |

A - 630-700 pts.
B - 560-629
C - 490-559
D - 420-489
F - Below 420

II.    Topics

| | |
|---|---|
| Wed., Jan. 13 | Algebra Review |
| Fri., Jan. 15 | 2.4 Introduction to Limits |
| Wed., Jan. 20 | 2.6 Limit Theorems |
| Fri., Jan. 22 | " |
| Mon., Jan. 25 | 2.7 Continuity of Functions |
| Wed., Jan. 27 | " |
| Fri., Jan. 29 | 2.5 Rigorous Study of Limits |

-- Test 1 -- Tues., Feb. 2

| | |
|---|---|
| Mon., Feb. 1 | 3.1 & 3.2 The Derivative |
| Wed., Feb. 3 | 3.3 Rules for Finding Derivatives |
| Fri., Feb. 5 | 3.4 Derivatives of Sines and Cosines |
| Mon., Feb. 8 | 3.5 & 3.6 The Chain Rule |
| Wed., Feb. 10 | " |
| Fri., Feb. 12 | 3.7 & 3.8 Higher Order & Implicit Deriv. |
| Mon., Feb. 15 | 3.9 Related Rates |
| Wed., Feb. 17 | " |

-- Test 2 -- Tues., Feb. 23

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|---|---|
| Fri., Feb. 19 | 4.1 Maxima and Minima |
| Mon., Feb. 22 | 4.2 Monotonicity and Concavity |
| Wed., Feb. 24 | 4.3 Local Maxima and Minima |
| Fri., Feb. 26 | 4.4 More Max-Min Problems |
| Mon., Mar. 1 | " |
| Wed., Mar. 3 | 4.6 Limits at Infinity, Infinite Limits |
| Fri., Mar. 5 | 4.7 Sophisticated Graphing |

********* SPRING BREAK *********

| | |
|---|---|
| Mon., Mar.15 | 4.7 Graphing (cont.) |
| Wed., Mar. 17 | 4.8 The Mean Value Theorem |

-- Test 3 -- Tues., March 23

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|---|---|
| Fri., Mar. 19 | 5.1 Antiderivatives |
| Mon., Mar. 22 | 5.2 Introd. to Differential Equations |
| Wed., Mar. 24 | 5.3 Sums and Sigma Notation |
| Fri., Mar. 26 | 5.4 Introduction to Area |
| Mon., Mar. 29 | 5.5 The Definite Integral |
| | 5.6 The Fund. Theorem of Calculus |
| Wed., Mar. 31 | 5.7 More Properties of the Def. Integral |
| Fri., Apr. 2 | 5.8 Aids in Evaluating the Def. Integral |
| Mon., Apr. 5 | " |
| Wed., Apr. 7 | 6.1 The Area of a Plane Region |
| Fri., Apr. 9 | 6.2 Volumes of Solids: Disks, Washers |
| Mon., Apr. 12 | " |

-- Test 4 -- Tues., April 13

| | |
|---|---|
| Wed., Apr. 14 | 6.3 Volumes of Solids: Shells |
| Fri., Apr. 16 | " |
| Mon., Apr. 19 | 6.4 Length of a Plane Curve |
| Wed., Apr. 21 | " |
| Fri., Apr. 23 | Review |
| Mon.., Apr. 26 | Review |

| Instructor: | Mrs. Jan Smith |
| Office: | 115 C Seney |
| Phone: | 4-8419 |

| Office Hours: | 9:00 - 10:00  MWF | 2:00 - 3:30 T TH |
| | 11:00 - 12:00 | |
| | 1:00 - 3:30 | |

Quizzes:     All quizzes will be take-home. <u>You must be present in class to receive your quiz</u>. Your two lowest quiz grades will be dropped at the end of the semester.

Honor Code:     The Honor Code applies to all tests and quizzes. You may NOT work together on the quiz problems, nor should you ask the math tutors for assistance with these problems. If you need help with these problems or any others, please see me. If you become aware that students are copying quiz problems, you need to advise me.

Attendance:     Attendance will be taken every day. You are expected to attend class. If you know you will be absent on the day a quiz is due, please bring your quiz to me before you leave or send it by another student. If a planned absence will cause you to miss a test, please make arrangements to take the test before you leave. In case of illness or emergency, please contact me as soon as possible.

**     To make up a test, your <u>absence must be excused</u>, and you must take the make-up test within two (2) days of the original test unless there are extenuating circumstances.

**     Do <u>not</u> ask to be excused from a test because you have another test or paper scheduled for the same day. If you have <u>two</u> additional tests scheduled on a test day, please see me about a possible postponement.

## PURPOSE

This course  will provide each student with an opportunity to learn those calculus topics typically covered in the first semester of calculus and to fulfill a requirement toward his major or professsional goal.  The topics include the following concepts.

-- limits (evaluation and interpretation)

-- continuity (identification of discontinuities)

-- derivative (definition, as related to functions in general; interpretation a rate and in optimization)

-- rules of differentiation (first derivative, higher order derivatives, implicit)

-- applications of the derivative (related rate and optimization, graphing of polynomials, rational functions, functions with vertical tangents)

-- methods of integration (u-substitution)

-- applications of integration(area and volume)

-- theorems (Intermediate Value Theorem, Mean Value Theorem and Rolle's Theorem, Extreme Value Theorem, Fundamental Theorem of Calculus, Mean Value Theorem for Integrals)