Mathematics 112
Fall, 1993

Textbook: Varbergand Purcell, Calculus, 6th edition

Instructors: Dr. Evelyn C. Bailey, office in Seney 115D

Office Hours: To be announced.

Content: Mathematics 112 is the second semester of calculus and includes derivatives involving inverse trigonometric, logarithmic, and exponential functions; methods of integration; L'Hôspital's Rule, and improper integrals; polar coordinates; sequences and infinite series; and power series. Specific topics by day is attached.

Grading: The final course grade will be determined as follows:

Major tests (5 @ 100 points)	500 points
Quizzes (best 6 @ 20 points)	120 points
Computer Project	100 points
Research Paper	100 points
Final Exam	200 points
	1020 points

In general,

A: 900 points and above
B: 800-899 points
C: 700-799 points
D: 600-699 points
F: below 600 points

There may be occasion to use the grades of A-, B+, B-, C+, C-, D+ for sums of points near the above given cut-off total points.

Major tests: Five major tests will be given at 7:45 a.m. on the following mornings: September 9, September 30, October 19, November 9, November 23. No calculator use is allowed. Any exception will be announced in class prior to the specific test. Mark your calendars now.

Quizzes: All quizzes are announced and "take home"; however, you must be present in class to receive your quiz. You must work each quiz at one sitting and use only the reference sheet provided for this course. Quizzes are due at class time on the class day following your receipt of them. Each quiz is worth 20 points and the best six quizzes will be used to help determine your grade.

Computer Project: Using Derive in the computer laboratory in Pierce Hall, you are to prepare a portfolio of computer printouts showing ten distinctly different graphs. Each function needs to be clearly identified and you must give all important aspects. The ten graphs should include graphs from logarithms, exponents, inverse trigonometry (Test 1) and from Polar Coordinates (Test 3). Computer aides may help with the use of the computer, but you must create your own functions and portfolio. Due Friday, October 29.

Research Paper: Your research paper will require at least five resources and will need to be between 4 and 6 typed pages. Details regarding this paper will be given to you in the next three weeks. Due on November 12.

Homework: Homework assignments will be provided at the beginning of each testing segment. The specific topics included in this course are attached. Assignments will not be collected but are for your benefit. It is important that you successfully complete a majority of the problems assigned. You will need to spend at least 2 good hours of study for each class session. Do not get behind and wait until the last minute to study.

Tutoring: Student tutors will be available from 6:00 to 8:00, Monday through Thursday in room 201 of Language Hall. In addition, student tutors are available from 3:00 to 5:00, Monday through Thursday in Seney 115. There may be other special times which will be announced later.

Help Sessions: A few help sessions will be scheduled throughout the semester. These are optional. Most will be held at 8:30 on Tuesday or Thursday mornings so as not to interfer with science laboratories and afternoon classes.

Attendance: You are expected to attend all classes since you are responsible for work covered in class. An inordinate amount of absences will be handled in accordance with school policies.

You are expected to take tests at the scheduled times. Any conflicts or problems will be handled on an individual basis. If the excuse is considered legitimate by your instructor, arrangements will be made to take a test prior to the testing time. Emergencies will be handled on an individual basis.

Summary of Important Dates:

September 6	Labor Day
September 9	Test 1
September 30	Test 2
October 7, 8	Midsemester break
October 19	Test 3
October 29	Computer project due
November 9	Test 4
November 12	Research Paper due
November 23	Test 5
November 24, 25, 26	Thanksgiving break
December 3	Last class day

HONOR CODE: THE HONOR CODE OF OXFORD COLLEGE APPLIES TO ALL WORK SUBMITTED FOR CREDIT IN THIS COURSE, AND ALL SUCH WORK WILL BE PLEDGED TO BE YOURS AND YOURS ALONE. THIS INCLUDES THE TESTS, QUIZZES, COMPUTER PROJECT AND RESEARCH PAPER.

Specific Topics

Monday, August 23 Wednesday, August 25	Sections 7.1, 7.2 Logarithmic Function and review integration
Friday, August 27 Monday, August 30	Sections 7.3, 7.4, 7.5 Exponential Function, Growth and Decay and review differentiation
Wednesday, September 1	Sections 7.6, 7.7 Inverse Trigonometric Function
Friday, September 3	Section 15.2 Partial Derivatives
Monday, September 6	Labor Day
Wednesday, September 8	Review

Test 1 on September 9 [Transendental Functions and review differentiation]

Friday, September 10 Monday, September 13	Section 8.1, 8.2 Substitution method of integration
Wednesday, September 15 Friday, September 17	Section 8.3 Trigonometric Substitution of Integration
Monday, September 20 Wednesday, September 22	Section 8.4 Integration by Parts
Friday, September 24 Monday, September 27	Section 8.5 Partial Fractions
Wednesday, September 29	Review

Test 2 on September 30 [Methods of Integration]

Friday, October 1	Sections 9.1, 9.2 L'Hôspital's Rule and Indeterminate Forms
Monday, October 4 Wednesday, October 6	Sections 9.3, 9.4 Improper Integrals
Friday, October 8	Mid-semester Break

Monday, October 11 Wednesday, October 13	Sections 12.6, 12.7, 12.8 Polar Coordinates
Friday, October 15 Monday, October 18	Review

Test 3 on Tuesday, October 19
[Improper Integrals, Polar Coordinates and integrations]

Wednesday, October 20	Section 11.1 Infinite Sequences
Friday, October 22 Monday, October 25	Section 11.2 Infinite Series
Wednesday, October 27 Friday, October 29	Sections 11.3, 11.4 Positive term series; **Computer Project Due on October 29**
Monday, November 1 Wednesday, November 3	Section 11.5 Alternating Series, Absolute Convergence
Friday, November 5 Monday, November 8	Review

Test 4 on Tuesday, November 9 [Infinite Series and review limits]

Wednesday, November 10 Friday, November 12	Section 11.6, 11.7 Power Series
Monday, November 15 Wednesday, November 17	Section 11.8 Taylor and Maclaurin Series
Friday, November 19 Monday, November 22	Review

Test 5 on Tuesday, November 23 [Power Series and review Infinite Series]

Wednesday, November 24 - Sunday, November 28 is Thanksgiving Break

Monday, November 29 Wednesday, December 1 Friday, December 3	Review for final . . .