CALCULUS 122-A and B Fall Semester 2002

Bryan Smith	Thompson 321-E	879-3562	bryans@ups.edu

MATH 122-A	Thompson Hall 316	9:00 A.M.	M,W,F
	Thompson Hall 316	8:30 A.M.	T
MATH 122-B	Thompson Hall 125	10:00 A.M.	M,W,F
	Thompson Hall 125	9:30 A.M.	T

OFFICE HOURS

11:00 - 11:50 A.M.	Monday	Wednesday	Friday
10:30 - 11:30 A.M.	Tuesday		

I am also happy to make appointments for meetings at other times. Feel free to contact me personally, by telephone or by electronic mail.

TEXTBOOK, CALCULATOR

Calculus, 2nd Edition, Bradley and Smith, ©1999, Prentice-Hall. Inc.
TI-86 Calculator or equivalent. See http://math.ups.edu/info/calculators.html for detailed calculator requirements. Science/Math majors might consider buying *Scientific Notebook* or some other technical word processor.

COURSE CONTENT We will cover section 4.8 and chapters 5–8 of our text. By studying this material, you will learn much about the Integral Calculus: definite integrals, antiderivatives, the Fundamental Theorems of Calculus, and connections, extensions and applications of these ideas (including differential equations, function approximation, sequences and infinite series). See my web page for a detailed (and fairly accurate) timeline.

The only prerequisite for this course is that you understand the fundamental ideas of the Differential Calculus. This material is covered in MATH 121 (the first semester of the calculus sequence) and includes chapters 1-4 and sections 5.1 and 5.2 of our text. Although you already understand the basic concepts of function, limit, continuity and derivative, we will review these concepts rapidly at the beginning of the semester and during the first three weeks as the occasion warrants.

READING Developing an ability to read and understand a (relatively) technical piece of writing is a primary goal of this course. To this end, section-by-section reading assignments will be made in the following fashion.

Assignments and their due dates will be posted on my web page well in advance of when they will be collected. They will be due at 6:30 A.M. and are to be submitted by e-mail. When submitting your answers, your e-mail (must) have a certain structure in order for me to be able to filter it out of my other mail. Specifically,

- The SUBJECT: field must contain both 'Calculus 122' and 'Section ?.?' where '?.?' refers to the chapter and section. For example, the SUBJECT: lines
  1. *'Calculus 122, Section 5.1'*
  2. *'My class is Calculus 122 and this is my response to the reading assignment for Section 5.1'*

  are both acceptable SUBJECT lines for the assignment dealing with section 1 of chapter 5.
- The first line of your answer must begin with your name.

At the end of the semester, these scores will be used to determine how plusses and minuses are assigned for the final grade.

QUIZZES You will be working on a take-home quiz almost every week. I try to write quiz problems that are interesting and challenging so these problems can be open-ended in the sense that there is no one best solution. I expect your results to be written using complete sentences which guide a reader through the work (see below for more specific comments on writing style). I encourage you to work on the quizzes in small groups. However, if you do work on a quiz with others, you must do your own write-up of the results. This is non-negotiable! Collaborating on how to write up the material will result in zero credit. The write-up must also include the names of those with whom you worked as well as citations of any sources you used in your research.

It is best to think of these quizzes as officially assigned papers in which you completely explain your analyses of the problems. At the very least your quizzes should be

- Written without any help in presentation or style (although you may work in groups during the problem-solving stage)
- In ink or written on a word processor **with the names of any collaborators cited on the first page**
- Written using complete, accurately punctuated sentences
- Presented in the first person and with a clear, easy-to-follow expository style
- Targeted at an audience consisting of students not in this class but with an equivalent mathematical background.

Since many of you are either science or mathematics majors, you might consider using a word processor to write your papers. Reasonable technical word processors that also have symbolic manipulation packages include:

- *Scientific Notebook*
- *Mathematica*
- *MathCad*
- *MatLab*

EXAMINATIONS There will be an examination approximately every three weeks and your lowest score will be dropped. No makeup examinations will be given – a missed exam will be your dropped score. The examination schedule is

Exam 1 September 17, 2002

Exam 2 October 8, 2002

Exam 3 October 29, 2002

Exam 4 November 19, 2002

Exam 5 December 10, 2002

Examinations are written so approximately half of each exam is "straightforward" and the remainder involves more challenging problems. The expectation is that, as well-prepared students, you will work the "straightforward" problems without hesitation and find the others more challenging.

FINAL EXAM The final examinations will be comprehensive. They will be held in our classroom on

Math 122-A; Thursday December 19, 2002; 8:00 - 10:00 A.M.

Math 122-B; Monday December 16, 2002; 4:00 - 6:00 P.M.

Please note this schedule and do **not** plan to leave town before the scheduled time for the final. Previously purchased airline tickets are not a valid reason for re-scheduling a final examination.

HOMEWORK I will assign (and post on the course web page) homework problems from the textbook on which I expect you to spend considerable time and effort. I will discuss homework problems daily in class. You will benefit most from these discussions if you have worked on the assigned problems. A selection of homework problems will be regularly collected and evaluated.

GRADING The different aspects of the course will be weighted according to the following:

Homework	5%
Reading Assignments	+/-
Quizzes	40%
Examinations	40%
Final Examination	15%

ATTENDANCE POLICY I expect you will come to class every day. I don't take attendance, but in a class of this size it is not hard to notice when someone is not here.

Attending class helps enormously in learning calculus. Class time is often used to (1) explain material from the textbook, (2) introduce material or work on problems not found in the textbook, (3) give hints on assignments, and (4) go over assigned problems. [Hint: Exam problems are sometimes remarkably similar to assigned problems and examples worked in class.]

If you have to miss any of your classes for any reason, professors generally appreciate it if you let them know why you will be missing, in advance if possible.

First Assignment (Due this Friday at 6:30 A.M.) Find my university web page

(http://www.math.ups.edu/ bryans/index.html)

and send an e-mail message to me at **bryans@ups.edu** indicating you have access to the internet and understand Beverly Smith (bsmith@ups.edu) does not appreciate receiving Bryan Smith's e-mail messages.