

Fall Semester 2003

Bryan Smith	Thompson 321-E	879-3562	bryans@ups.edu
Office Hours	Thompson 321-E	9:00 - 9:50 A.M.	M,W,F
		3:30 - 4:30 P.M.	W
MATH 221-A	Thompson 318	10:00 - 10:50 A.M.	M,W,F
	Thompson 318	10:00 - 10:50 A.M.	T
MATH 221-B	Thompson 127	11:00 - 11:50 A.M.	M,W,F
	Thompson 127	11:00 - 11:50 A.M.	T

I am also available for meetings at other times. If you have trouble seeing me to make an appointment, feel free to use the telephone or e-mail. mail.

TEXTBOOK, CALCULATOR

Textbook *Calculus, 3rd Edition*, Strauss, Bradley and Smith, ©2002, Prentice-Hall. Inc.

Calculator TI-86 or equivalent. If you already have a different calculator, see <http://math.ups.edu/info/calculators.html> for more information about calculator requirements. Science/Math majors will be writing technical material for upper-division classes and might consider buying a technical word processor for this purpose.

COURSE CONTENT We will cover chapters 9 through 13 of our textbook. By studying this material you will learn how the concepts of one-variable calculus extend and do not extend to functions of more than one variable. The only prerequisite for this course is an understanding of the fundamental ideas taught in MATH 121 and MATH 122 (the first two semesters of the calculus sequence). Some of the concepts from these courses are: function, limit, continuity, derivative, antiderivative, definite integral, the Fundamental Theorems of calculus, differential equations, function approximations, sequences, and series.

READING Developing your ability to read and understand a (relatively) technical piece of writing is a primary goal of this sophomore-level course. To this end, you will be responsible for the material covered in my lectures (which will be related to the material in the textbook but will not follow it exactly) as well as the material in the textbook.

To help you know what to read and when, I have posted a “Course Calendar (Tentative)” on my web page. This calendar indicates what material I expect to cover on each class day as well as other useful information such as Quiz due dates and University holidays.

PROJECTS You will be working on a take-home project almost every week in which there is not an examination. I try to write projects that are interesting, educational, and challenging so they will rarely be ‘straightforward’ and will occasionally include problems that are open-ended in the sense that there is no one best solution. I will drop your lowest project score.

I expect your results to be written using complete sentences which guide a reader through your work (see below for more specific comments on writing style). I encourage you to work on the projects in small groups. However, if you do work with others, you must do your own write-up of the results. This is non-negotiable! Collaborating on how to write the solution 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 projects as officially assigned papers in which you completely explain your analyses of the problems and fully document and cite all sources used. When I read your submissions I will mark them according to the Rubrik attached to the end of this information sheet.

Writing Style At the very least your projects 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**. (If you do not work with anyone be sure to mention that fact 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. Students representing the University (music, athletics, forensics, et cetera) on an examination day may re-schedule their exam but must talk with me **before** the actual exam.

The examination schedule is

Exam 1 September 19, 2003

Exam 2 October 3, 2003

Exam 3 October 31, 2003

Exam 4 November 21, 2003

Exam 5 December 10, 2003

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 the others will highlight the depth of your knowledge.

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

Math 221-A; Tuesday December 16, 2003; 8:00 - 10:00 A.M.

Math 221-B; Tuesday December 16, 2003; 12:00 - 2:00 P.M.

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

HOMEWORK I will assign (and have posted 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 and on a number of the “Questions-Examples-Discussion” Tuesdays. You will benefit most from these discussions if you have worked on the assigned exercises. I only list a minimal selection of problems on the web page. It is your responsibility to determine if you need to work more.

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

Reading Assignments	+/-
Homework	0%
Projects	44%
Examinations	44%
Final Examination	12%

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

Attending class helps enormously in learning mathematics. 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, I, and professors in general, will appreciate it if you let us 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 and look at the calendar and list of homework problems.

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

Also, 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.

Points	Logic and Mathematics
5	Arguments are correct, complete and without extraneous or misleading material.
4	Arguments have only one of: a few minor errors, omissions or inappropriate material.
2	Arguments have at least two of: errors, omissions and inappropriate material.
0	Arguments are more seriously flawed.

Points	Use of Terminology and Notation
2	All technical terms, concepts and notation are used correctly.
1	There are minor problems with terminology and or concepts.
0	There are major problems with terminology or concepts.

Points	Written Presentation
3	Follows citation requirements and all other writing guidelines.
2	Follows almost all of the guidelines with only minor lapses.
1	Follows about half of the guidelines
0	Does not meet most writing guidelines.

Writing Guidelines

It is best to think of these formal projects as officially assigned papers in which you completely explain and justify your analyses of the problems. I expect your papers to be

- Fully footnoted and documented. Specifically,
 1. All collaborators (or lack of same) in problem-solving are cited on the first page and any ideas of theirs used in your paper are footnoted or cited in-line.
 2. All reference works used are footnoted or cited in-line.
- 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.
- 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.