

Text We will be using *Calculus* (2nd edition) by G.L. Bradley and K.J. Smith. We will cover material from Chapters 1 through 4 — see the attached **tentative** schedule for the exact sections covered. There is also a packet of modules and reading assignments to purchase from the Bookstore. The *Student Survival & Solutions Manual* is available as an optional text.

Home Page Start at <http://buzzard.ups.edu/courses.html> to locate the WWW page for this course.

Office Hours My office is Thompson 321G; the telephone number is 879-3564. Making appointments or simple, non-mathematical questions can be handled via electronic mail — my address is beezer@ups.edu. Office hours will be 9:30–10:30 on Monday, Tuesday, Thursday and Friday. I will always be available during these times on a first-come, first-served basis. If these times are not convenient, please do not hesitate to make an appointment with me for another time. You are also welcome to drop by my office without an appointment at any time that I am in. Office hours are your opportunity to receive extra help or clarification on material from class, or to discuss any other aspect of the course.

Calculators This course requires the use of a graphing calculator. It should be capable of displaying the graphs of functions, solving equations and differentiating and integrating numerically. I highly recommend the Texas Instruments TI-85, which is what I will be using. These are available at the bookstore, though you must ask for them at the checkout counter. It is not required that you use this exact model, but whatever you use should have the capabilities listed above.

Homework Homework will be assigned at the conclusion of each section, it will be due at the start of the next class session and will not be accepted late. Of course, you are not limited to working *just* these assigned problems. On the day homework is handed up there will be some time at the start of class for discussion. It is your responsibility to be certain that you are learning from the homework exercises. The best ways to do this are to work the problems diligently when assigned and to participate in the classroom discussion. If at this point you are still unsure about a problem, then a visit to my office is in order. Making a consistent effort outside of the classroom is the easiest way to do well in this course.

Mathematics not only demands straight thinking, it grants the student the satisfaction of knowing when he is thinking straight. — D. Jackson

Mathematics is not a spectator sport. — Anonymous

I hear, I forget.

I see, I remember.

I do, I understand.

— Chinese Proverb

Quizzes There will be six one-hour quizzes — see the attached sheet for tentative dates. The lowest of your six quiz scores will be dropped. Each quiz will cover approximately four sections of the text. The comprehensive final exam will be given at 8 A.M. on Wednesday, May 10. The final exam cannot be given at any other time, so be certain that you do not make any travel plans that conflict, and also be aware that I will allow you to work longer on the final exam than just the two-hour scheduled block of time.

Grades Grades will be based on the following breakdown: Quizzes — 75%; Final — 25%. Homework, attendance and improvement will be considered for borderline grades. Scores will be posted on the World Wide Web at <http://buzzard.ups.edu/courses.html>. A reminder about withdrawals — a Withdrawal Passing grade (W) can only be given during the third or fourth weeks of the semester, after that time (barring unusual circumstances), the appropriate grade is a Withdrawal Failing (WF), *even if your work has been of passing quality*. See the attached schedule for the last day to drop with an automatic ‘W’ and please read *The Logger* about these often misunderstood grades.

Attendance Daily attendance is required and expected.

Purpose One of the goals of your college education is to progress to becoming an independent scholar. To this end, you will be given a great deal of freedom in how you choose to learn calculus. Of course, with freedom comes responsibility. Read the book before the lectures, work the exercises diligently, tidy up your class notes each evening, and ask questions. Arriving late to class, or having conversations with others during class, not only disrupts your peers, but tells me you are not serious about your education. I will not routinely check attendance, but our class is small enough that I will notice when you are not here, and again this will be another way that you signal me about your commitment to the endeavor.

Calculus is one of the most amazing intellectual developments of the past several hundred years and is responsible in large part for many of the advances in science and engineering that we take for granted today. Your commitment to this course will be rewarded, and your inattention will be a waste of your tuition and your time.

Bedtime Readings

| Quiz | Title |
|------|--|
| 1 | <i>Memorabilia Mathematica</i> |
| 2 | <i>Familiar Quotations & Famous Non-Mathematicians</i> |
| 3 | <i>Mountains of π</i> |
| 4 | <i>Leonard Euler</i> |
| 5 | <i>The “Witch” of Agnesi</i> |
| 6 | <i>Pierre de Fermat</i> |

Tentative Daily Schedule

| Monday | Tuesday | Thursday | Friday |
|---------------------------------------|---------------------------------------|---|---|
| Jan 17 MLK Day | Jan 18 Syllabus Section 1.3 | Jan 20 Section 1.4 | Jan 21 Section 2.1 |
| Jan 24 Problem Session | Jan 25 Section 2.2 | Jan 27 Section 2.2 | Jan 28 Module: Surveying Outer Space |
| Jan 31 Problem Session | Feb 1 Quiz #1 | Feb 3 Section 2.3 | Feb 4 Section 2.4 |
| Feb 7 Section 1.2 | Feb 8 Section 1.6 | Feb 10 Module: Internal Rate of Return | Feb 11 Problem Session |
| Feb 14 Quiz #2 Last day to drop | Feb 15 Section 3.1 | Feb 17 Section 3.1 | Feb 18 Section 3.2 |
| Feb 21 Section 3.2 | Feb 22 Section 3.3 | Feb 23 Section 3.3 | Feb 24 Section 3.4 |
| Feb 28 Section 3.4 | Feb 29 Module: Price Elasticity | Mar 2 Problem Session | Mar 3 Quiz #3 |
| Mar 6 Section 3.5 | Mar 7 Section 1.5 | Mar 9 Section 3.6 | Mar 10 Section 3.7 |

Spring Break

| Monday | Tuesday | Thursday | Friday |
|---------------------------|-----------------------|---------------------------------------|-------------------------------|
| Mar 20 Section 3.7 | Mar 21 Section 3.8 | Mar 23 Section 3.8 | Mar 24 Module: Rainbows |
| Mar 27 Problem Session | Mar 28 Quiz #4 | Mar 30 Section 4.1 | Mar 31 Section 4.1 |
| Apr 3 Section 4.2 | Apr 4 Catch-up | Apr 6 Section 4.3 | Apr 7 Section 4.3 |
| Apr 10 Section 4.4 | Apr 11 Section 4.4 | Apr 13 Module: Movie Theaters | Apr 14 Problem Session |
| Apr 17 Quiz #5 | Apr 18 Section 4.5 | Apr 20 Section 4.6 | Apr 21 Section 4.6 |
| Apr 24 Section 4.7 | Apr 25 Section 4.7 | Apr 27 Module: Optimal Foraging | Apr 28 Problem Session |
| May 1 Quiz #6 | May 2 Housekeeping | | |

Final Examinations

Homework Exercises

| Section | Page | Exercises |
|---------|------|--|
| 1.3 | 32 | 6, 10, 11, 17, 31, 38, 43, 48, 53 |
| 1.4 | 41 | 5, 6, 19, 20, 33, 43, 50, 52 |
| 2.1 | 81 | 5, 9, 22, 29, 47 |
| 2.2 | 95 | 6, 9, 13, 24, 28, 29, 30, 37, 42, 58 |
| 2.3 | 105 | 3, 9, 13, 18, 30, 36, 40, 47, 59 |
| 2.4 | 115 | 2, 6, 9, 13, 19, 25, 28, 39, 47, 56b |
| 1.2 | 21 | 6, 15, 22, 29, 30, 32, 34, 46, 47, 59 |
| 1.6 | 65 | 2, 14, 17, 21, 23, 24, 35, 39, 61, 62, 69 |
| 3.1 | 139 | 3, 8, 13, 19, 28, 33, 35, 42, 43, 46, 53 |
| 3.2 | 150 | 2, 5-26, 28, 31, 33, 36, 41, 44, 55 |
| 3.3 | 158 | 1-32, 37, 40, 43, 49, 56 |
| 3.4 | 166 | 13, 15, 21, 25, 29, 36, 44 |
| 3.5 | 174 | 5, 6, 16, 18, 23, 26, 29, 35, 41, 45, 46, 47 |
| 1.5 | 52 | 3, 5, 13, 20, 26, 29, 35, 37, 47a, 50 |
| 3.6 | 186 | 5, 11, 17, 19, 31, 34, 41, 45, 47, 51 |
| 3.7 | 194 | 15, 18, 25, 27, 31, 37, 39 |
| 3.8 | 206 | 1, 7, 11, 21, 28, 31, 46, 47ab |
| 4.1 | 226 | 3, 6, 8, 17, 20, 23, 28, 30, 31, 40, 53 |
| 4.2 | 233 | 5, 18, 23, 29, 32, 33, 42 |
| 4.3 | 244 | 3, 9, 12, 15, 22, 27, 32, 42, 49 |
| 4.4 | 256 | 6, 9, 14, 19, 23, 40, 41, 45 |
| 4.5 | 270 | 7, 10, 11, 13, 18, 21, 22, 25, 29, 30 |
| 4.6 | 280 | 8, 13, 16, 18, 26, 36 |
| 4.7 | 295 | 3, 6, 7, 13, 15, 23 |