COURSE NUMBER & TITLE: MATH 2200-02  (Calculus I)

SEMESTER:  Fall 2006

LECTURE HOURS: 5  CREDITS: 5

CLASS TIME:  1:00-1:50 PM  DAYS: MTWTHF  ROOM: PS 119

INSTRUCTOR’S NAME: Raymond Steinbacher  EMAIL: rsteinbacher@caspercollege.edu

INSTRUCTOR’S OFFICE:  PS 114  PHONE: Office 268-2512
                                Academic Assistant 268-2513

OFFICE HOURS:  Monday          10 -11:00 AM
               Tuesday          8:30 – 8:50 & 10 - 11:00 AM
               Wednesday       8:30 – 8:50 & 10 - 11:00 AM
               Thursday        8:30 – 8:50 & 10 - 11:00 AM
               Friday          10 - 11:00 AM

               Or-- by appointment  @12:00 or 2:00 PM.

COURSE DESCRIPTION:  Introduction to the calculus of single variables.  Covers derivatives of polynomial, trigonometric, exponential and logarithmic functions.  Includes limits, applications of derivatives, related theorems, and introduction to integrals.

PREREQUISITES:  A “C” or better in MATH 1405 or 1450 or an ACT Composite Math score of 27 or better, within the past year, or an appropriate COMPASS Exam score.

GENERAL OBJECTIVES:  The general objectives are:

1. Preparations for Calculus
2. Limits and Their Properties
3. Differentiation
4. Applications of Differentiation
5. Integration

SPECIFIC OBJECTIVES:  The specific objectives are:

1. Graphs and Models
2. Linear Models and Rates of Change
3. Functions and Their Graphs
4. Fitting Models to Data
5. Inverse Functions
6. Exponential and Logarithmic Functions
7. A Preview of Calculus
8. Finding Limits Graphically and Numerically
9. Evaluating Limits Analytically
10. Continuity and One-Sided Limits
11. Infinite Limits
12. The Derivative and the Tangent Line Problem
13. Basic Differentiation Rules and Rates of Change
14. The Product and Quotient Rules
15. Higher-Order Derivatives
16. The Chain Rule
17. Implicit Differentiation
18. Derivatives of Inverse Functions
19. Related Rates
20. Newton’s Method
21. Extrema on an Interval
22. The First Derivative Test
23. Concavity and the Second Derivative Test
24. Limits at Infinity
25. A Summary of Curve Sketching
26. Optimization Problems
27. Differentials
28. Anti-derivatives and Indefinite Integration
29. The Fundamental Theorem of Calculus
30. Integration by Substitution
METHODOLOGY: I plan to teach this class with short lectures followed by examples and then interspersed with small group activities. I encourage small group, math related discussions during the activities. Please feel free to ask questions at any time.

EVALUATION CRITERIA:
I will take attendance every day. Attendance will be considered for border-line grades.

Homework is assigned every class period. Homework is not collected, but if you do not do the homework, you will not learn the material. It is your RESPONSIBILITY to stay current with the homework! *Always* get your questions answered—in my office hours or in the Math Lab.

In class activities will total 50 points. You **must** be present to earn these points.

There will be an in-class or take-home quiz **at least once** each week throughout the semester. Each quiz will be worth 10 points. I will keep the highest 10 quiz scores. **NO** Make-ups!

There will be four Maple (Computer Algebra System) labs worth a total of 50 points.

There will be seven tests (Chapter P, 1, 2A, 2B, 3A, 3B, 4). Each will be worth 100 points.

The final exam will be worth 100 points. The final exam is a cumulative examination.

Grades are determined by the total points earned divided by the total points (1000). Standard grades lines apply (90%+ A, 80-89% B, 70-79% C, 60-69% D, 59% and below F). Keep track of your points throughout the semester so you will always know your grade.

MAKE UP POLICY for EXAMS:
Anyone may miss and make up **one** exam (for any reason) so long as you inform me **before** the exam is administered **and** you make it up **before** the graded tests are returned. In other words: everybody gets one, nobody gets more than one make-up.

REQUIRED TEXTS, READINGS, MATERIALS: *Calculus of a Single Variable – Early Transcendental Functions* (3rd edition) by Larson, Hostetler, and Edwards, **graphing** calculator (preferably a TI-83 or TI-84, these can be leased from the Math Learning Center).

LAST DATE TO CHANGE TO AUDIT STATUS OR TO WITHDRAW WITH A “W” GRADE: Friday, November 3, 2006.

STUDENT RIGHTS & RESPONSIBILITIES: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College student. It is the policy of Casper College to provide appropriate accommodations to any student with a documented disability. If you have a need for accommodation in this course, please make an appointment to see me at your earliest convenience. If you have any problems with this class, please go through the proper chain of command: myself, Head of the Math Department, Division Chair, VP Student Services, VP Academic Affairs.

My best suggestions for succeeding in this class are:
1. Attend class.
2. Complete the homework.
3. Get your questions answered ASAP.

CLASS RULES:
1. **TURN OFF YOUR CELL PHONE WHEN YOU ENTER THE ROOM.**
2. **NO TALKING DURING LECTURE.** **IF YOU HAVE A QUESTION, ASK ME—NOT THE STUDENT NEXT TO YOU.**
3. **IF YOU ARE LATE—ENTER DISCREETLY AND SIT IN THE BACK.**