Math 67-206
Applied Calculus for Business
Spring 2020 Section 6
5:30PM - 7:30 PM, Monday, Wednesday, Swart 303

Instructor: Dr. Hosien S. Moghadam

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Office Hours: 1:50PM-2:50PM, M,W **And others by appointment.**

Textbook: Applied Calculus, Fifth edition by Hughes-Hallet, Gleason, Lock, Flath, et.al.

Calculator: The graphing calculator TI-83 or TI-84 is required. Bring your calculator to class during class time.
Prerequisite: Math 104, Math 108, or Math 204 with a grade of C or better.

General Goals and Objectives for the Course:
Topics introduced in Math 206, such as marginal analysis, optimization, and finding total change, are used in Business and Economics courses. We introduce the basic functions and how to calculate and estimate derivatives and integrals using a variety of methods. Understanding these topics will prepare students for success in other classes.

Upon successful completion of the course, students are expected to have the ability to:
• Understand the definition of simple and compound interest
• Set up and solve financial applications involving annuities, sinking funds, and amortization
• Understand the definition and fundamental idea of the derivative
• Find the derivative from information presented in graphical, tabular, and algebraic form
• Interpret derivatives as an instantaneous rate of change, using everyday language
• Calculate and understand the interpretation of the second derivative
• Use the shortcut formulas for derivatives of standard elementary functions
• Calculate derivatives using the Chain Rule, the Product Rule, and the Quotient Rule
• Use derivatives for linear approximations
• Identify and classify Critical Points of a function
• Find extrema of a function
• Know several applications of derivatives, including marginal analyses in economics
• Understand the definition and fundamental idea of the definite integral
• Find areas under curves using the definite integral
• Know the Fundamental Theorem of Calculus and how to use it to calculate definite integrals
• Find anti-derivatives for standard elementary functions
• Evaluate anti-derivatives using the method of substitution if time permits.
• Model real world problems using definite integrals, including those involving present and future values and producer and consumer surplus

Course Coverage:
We will be covering chapters 1-6, with some omissions and additions if necessary. A strong background in algebra will be assumed.
Topics to be covered are functions, financial applications involving annuities, sinking funds, and amortization, derivative and its applications, definite integral and its applications and antiderivatives.

Homework: Homework will be assigned during each class period. You may be quizzed on one or more of these assigned exercises at the beginning of the following class session.
Quizzes: There will be quizzes throughout the term that will be part of your grade. There will be no make-up quizzes. Quizzes count for 10% of your final grade.

Tests: There will be 3 exams, each worth 30% of the final. There will be no make-up tests except under special circumstances and prior notice. There may be an optional comprehensive final to replace a missing exam or an exam with the lowest score.

Grading: Based on the total points of 3 exams, quizzes, class participation, and attendance. The following scale will be used for your final grade.

$[91, 100]\ A$, $[89, 90]\ A^-$

$[86, 88]\ B^+$, $[81, 85]\ B$, $[78, 80]\ B^-$

$[76, 77]\ C^+$, $[69, 75]\ C$

$[66, 68]\ D^+$, $[60, 65]\ D$

Below 60% is F

Math 206 is part of the University Studies Program, USP, specifically, in the Nature category of the Explore component of the program. The ability to analyze, break down and solve a mathematical problem and then to apply the knowledge and skills thus gained is an essential part of what the USP and in turn a Liberal Arts Education aim to achieve. Math 206 includes numerous real life applications of the mathematical topics covered and some of the exams and quizzes will include application problems.

Please remember that you should attend class, study the text materials, and do the assigned problems in order to learn and follow the lectures. Try not to get behind in your work and let me know if I can be of any help.