

## MATH 121 – Business Mathematics II

**Course Description from Bulletin:** An introduction to the mathematics used in the study of finance, financial markets, and economics. (3-0-3)

**Enrollment:** This course does not count for graduation in any engineering, mathematics, natural science or computer science degree program

**Textbook(s):** Haeussler, Paul and Wood, *Introductory Mathematical Analysis for Business, Economics and Life and Social Sciences*, 11<sup>th</sup> edition. Prentice Hall Publishers

**Other required material:** None

**Prerequisites:** None

### Objectives:

1. Understand concepts of limits and continuity and apply them to problems involving the continuous compounding of interest.
2. Demonstrate basic differentiation skills.
3. Apply differentiation skills to solve 1) rate-of-change problems in economics that involve marginal cost and 2) revenue and maximization/ minimization problems for profit and cost functions.
4. Understand basic curve sketching techniques.
5. Use differentials to estimate changes and apply them to profit, revenue, and demand functions.
6. Learn basic integration skills.
7. Apply integration skills to find consumer/producer surplus, to find functions from marginal functions, and to study income distributions.

**Lecture schedule:** two 75 minute lectures per week

### Course Outline:

|                                   | Hours |
|-----------------------------------|-------|
| 1. Limits and Continuity          | 6     |
| 2. Differentiation                | 7     |
| 3. Additional Differential Topics | 6     |
| 4. Curve Sketching                | 7     |
| 5. Integration                    | 15    |

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|--------------------|--------------------|--------|
| <b>Assessment:</b> | Homework & Quizzes | 20-25% |
|                    | Exams              | 40-60% |
|                    | Final Exam         | 20-30% |

**Syllabus prepared by:** Sue Sitton and Pearl Bongolan-Walsh

**Date:** 12/15/05 revised: 11/08/06 Sitton and Edelstein

Adapted for Business program: 08/15/08 Fasshauer