



COURSE NUMBER: BUSI 110

CREDITS: 3

COURSE TITLE: Mathematics of Finance

PREREQUISITES: Pre-Calculus or Foundations of Math or an approved substitute are strongly recommended

Total Hours: 39

COURSE DESCRIPTION: This course will familiarize students with methods, procedures and applications of business mathematics, including the mathematics of merchandising, simple interest, and compound interest. Applications include discounts and markups, cost-volume-profit, short-term and long-term loans, credit card debt, savings and payment plan annuities, mortgages, bonds and investment decisions.

LEARNING OUTCOMES:

By successful completion of this course, you should be able to:

- perform simple algebraic operations
- solve equations algebraically and graphically
- analyze business problems involving trade discounts, cash discounts and retail pricing
- solve applied problems involving simple interest, compound interest, ordinary annuities and
- certain general annuities

COURSE CONTENT:

| Week | Topic |
|-------------|--|
| Week 1 | Introduction / Mathematics Fundamentals |
| Week 2 | Mathematic Fundamentals |
| Week 3 | Break-Even and CVP Analysis, Mathematics of Merchandising: Trade and Cash Discount – Markup and Markdown |
| Week 4 | Simple Interest and Applications |
| Week 5 | Midterm 1 |
| Week 6 | Compound Interest and Applications |
| Week 7 | Ordinary Simple Annuities and Applications |
| Week 8 | Ordinary General Annuities and Applications – Annuities Due, Deferred Annuities, and Perpetuities – Case Study |



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| Week 9 | Midterm 2 |
| Week 10 | Loan Amortization |
| Week 11 | Bond Valuation |
| Week 12 | Investment Decision |
| Week 13 | Review of the course material |
| | Final Exam |