

math206 Syllabus

math 206: Mathematics of Finance

Text: *Mathematics for Business, 10th edition*, Salzman, Miller, Clendenen, Pearson Addison Wesley, 2014

Prerequisites: Credit for math 102, math 103/104, or math 105.

Special Notes: A TI83, TI83+, TI84, TI-84+, or a calculator with a TVM Solver is required.

Course Objectives: Upon completion of this course, the student will be able to:

- determine gross earnings for wages, salaries, commissions and piecework including regular time pay, overtime pay and chargebacks,
- determine net pay by deducting FICA tax, Medicare tax, state disability insurance and various other payroll deductions, including state and federal withholding taxes,
- determine property tax by finding the assessed valuation of property based on the fair market value and then applying various different kinds of assessment rates,
- calculate interest, rate, principal, maturity value, present value and time for simple interest and compound interest,
- find the due date, face value, time and rate of a simple interest note,
- find bank discount, proceeds, face value, discount rate and time for simple discount notes,
- determine the amount of an annuity, the amount of an annuity payment, and the number of payments for both an ordinary annuity and an annuity due,
- calculate the present value of an annuity and the equivalent cash price,
- determine the amount of a sinking fund payment and set up a sinking fund table,
- calculate average daily balance, finance charges, and ending balance for open-end credit,
- determine installment cost, and finance charges for installment loans and find the APR,
- apply the United States Rule and the Rule of 78 when prepaying a loan,
- use the formula for amortization to find the payment on personal property loans,
- set up an amortization table and find the monthly payment due,
- determine monthly payments on a home and prepare a payment schedule.

Section and Topic

- Means and Weighted Means
- 6.1 Gross earnings (Wages and Salaries)
- 6.2 Gross earnings (Commission)
- 6.3 Gross Earnings (Piecework)
- 6.4 Social Security, Medicare, and Other Taxes
- 6.5 Income Tax Withholding
- 7.2 Property Tax
- 7.3 Personal Income Tax

- 12.1 Basics of Simple Interest
- 12.2 Simple Interest for a Given Number of Days
- 12.3 Maturity Value
- 12.4 Inflation and the Time Value of Money
- 13.1 Simple Interest Notes
- 13.2 Simple Discount Notes
- 14.1 Compound Interest
- 14.2 Daily and Continuous Compounding
- 14.3 Finding Time and Rate
- 14.4 Present Value at Compound Interest
- 15.1 Amount of an Annuity
- 15.2 Present Value of an Annuity
- 15.3 Sinking Funds
- 16.1 Open-End Credit
- 16.2 Installment Loans
- 16.3 Early Payoffs of Loans
- 16.4 Personal Property Loans
- 16.5 Real Estate Loans
- Motor Vehicle Insurance

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