

Course Outline

Department of Accounting and Finance  
School of Business and Economics

**FNCE 3170-3**  
**Fixed Income and Alternative Investments (3,0,0)**

**Calendar Description**

Students learn to design and analyze fixed income securities and alternative investment products particularly real estate. The importance of interest rates, credit risk and product features in the valuation of these assets is emphasized. Topics include an introduction to fixed income investments; fixed income markets; yield curves; bond pricing, valuation and volatility; credit analysis for firms and individuals; asset backed securities; real estate as an alternative investment asset class; evaluation of real estate investments; and other alternative investments.

**Educational Objectives/Outcomes**

Upon completion of this course, students will be able to:

1. Describe the various types of short and long-term debt instruments available to firms to meet financing needs.
2. Explain traditional theories of the yield curve and how this curve is used to forecast future interest rates.
3. Calculate yield to maturity and duration for various fixed income securities.
4. Discuss the 4 Cs of credit analysis and how it is used to qualify individuals and firms for bank loans.
5. Explain how asset-backed securities are created and their contribution to the global financial crisis.
6. Discuss the advantages and disadvantages of alternative investment asset classes versus traditional stock and bond investments.
7. Determine the effective interest rate for various types of real estate loans.
8. Calculate the rate of return on a real estate investment using discounted cash flow analysis.
9. Explain the difference between private equity and hedge funds and why investors should consider such investments.

**Prerequisites**

FNCE 2120 or FNCE 2121 or FNCE 3120 (grade of C+ or better); ECON 2330 or ECON 2331

Note: Students cannot receive credit for both FNCE 3170 and FNCE 3171.

**Co-requisites**

None

## **Texts/Materials**

Petitt, Barbara, Pinto, Jerald, and Pirie, Wendy. Fixed Income Analysis, 3<sup>rd</sup> edition, CFA Institute, 2015.

## **Student Evaluation**

Tests/quizzes	30-40%
Case studies/research projects/assignments	30%
Final exam	30-40%

Students must pass the exam to pass the course.

## **Course Topics**

1. Introduction to Fixed Income
  - Definition of fixed income investments
  - Definition of alternative investments
  - Features of bonds
  - Coupon payment structures
  - Inflation indexed bonds
  - Bonds with embedded options
  - Convertible bonds
2. Fixed Income Markets and Institutions
  - Bond markets
  - Bond quotations
  - Sovereign bonds and notes
  - Municipal bonds
  - Corporate bonds
  - Structure finance instruments
  - Short-term debt instruments
    - Treasury bills
    - Commercial paper
    - Banker's acceptances
    - Repurchase agreements
    - Certificates of deposit and guaranteed investment certificates
    - Money market funds
    - Treasury inflation protection securities
3. Yield Curves
  - Definition of yield curve
  - Examples of yield curves over time and across countries
  - Theories about yield curves
  - Spot and forward rates, forward rate model
  - Forecasting interest rates with the yield curve

4. Bond Pricing, Valuation and Volatility
  - Calculating yield to maturity
  - Yield to call and yield to put
  - Benchmark spread and credit spread
  - Floating rate notes
  - Volatility and duration
    - Macaulay duration
    - Modified duration
    - Effective duration
    - Key rate duration
    - Convexity
  - Arbitrage-free valuation of bonds
    - Law of one price
    - Stripping and reverse stripping
    - Comparison with traditional bond pricing formula
    - Monte Carlo simulation and bond pricing
5. Credit Analysis for Firms and Individuals
  - Credit risk
    - Spread risk
    - Downgrade risk
    - Liquidity risk
  - Recovery rates for distressed debt
  - Bond ratings
  - Credit scoring for firms and individuals
    - The 4 to 8 Cs of credit analysis
    - Ratio analysis for firms
    - Loan qualifications ratios for individuals
    - Benchmark spread and credit spread
    - Floating rate notes benchmark spread and credit spread
6. Asset Backed Securities
  - Securitization process
  - Construction of tranches for asset backed securities
    - Mortgage backed bonds
    - Collateralized mortgage obligations
    - Collateralized debt obligations
  - Asset backed securities and the Global Financial Crisis
    - Causes of the crisis
    - Lessons from the crisis
7. Real Estate as an Alternative Asset Class
  - Types of loans
  - Fixed rate mortgages
    - Points

- Prepayment penalties
- Effective rates
- Floating rate or adjustable rate mortgages (ARMs)
- Graduated payment, balloons, interest only loans
- Shared appreciation mortgages

8. Evaluation of Real Estate Investments

- Real estate valuation techniques
  - Net operating income
  - Capitalization rates
  - Discounted cash flow evaluation
  - Cost approach
  - Comparable sales
- Real estate investment trusts (REITs)
  - Real estate valuation indexes
  - Types of REITS
- International real estate markets

9. Other Alternative Investments

- The optimal portfolio
- Commodities as an investment class
- Private equity and venture capital
- Hedge funds
- Infrastructure and other types of investments

**Methods for Prior Learning Assessment and Recognition**

As per TRU policy

**Attendance Requirements – Include if different from TRU Policy**

As per TRU policy

**Special Course Activities – Optional**

**Use of Technology – Optional**