

**The Hong Kong University of Science & Technology**  
**Department of Finance**

**FINA 536: Fixed Income Analysis**

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### **Course Description**

This course teaches basic valuation techniques of the traditional fixed-income securities. It begins with basic concepts such as price-yield relationship and alternative definitions of yields, followed by price sensitivity measures (durations and convexities). The next topic is related to spot rates, discount factors, forward rates, par-bond yields, holding period returns, and classical theories of term structure of interest rates. Yield curve fitting techniques are essential for estimating various interest rate curves needed for practical uses. Issues involved in some simple portfolio strategies will be elaborated in details. The course then moves on to the more recent topics on repos and floating rate securities. Both economic intuition and quantitative skills are emphasized.

This course is a required course for the master-of-science (financial analysis and investment management) program and an elective course for master-of-business-administration students who are strongly interested in fixed-income securities with good quantitative skills.

The material learned in this course is useful in the following courses:

FINA557, Fixed Income Derivatives  
FINA538, Raising Debt in the Financial Markets  
FINA543, Credit Risk Management  
FINA517, Asset Securitization

### **Grading**

Midterm exam (100 min.)	40 points	4th week
Final exam (150 min.)	60 points	8th week

### **Required Textbook**

(MPP) Martellini, L., Priaulet, P. and Priaulet, S., 2003, *Fixed-Income Securities: Valuation, Risk Management and Portfolio Strategies*, The Wiley Finance Series.

## Other Recommended Readings

- (FF) Frank Fabozzi, 2005, *Fixed Income Analysis for the Chartered Financial Analyst Program*, F.J. Fabozzi Associates.
- (SS) Suresh Sundaresan, 2001, *Fixed Income Markets and Their Derivatives*, 2nd edition, Southwestern.
- (BT) Bruce Tuckman, 2003, *Fixed Income Securities: Tools for Today's Markets*, 2nd edition, Wiley.

## Topics

1. Basic Concepts
2. Term Structure of Interest Rates
3. Yield Curve Fitting
4. Portfolio Strategies
5. Repo Markets
6. Floating Rate Securities

## Miscellany

Unless indicated otherwise, everything discussed in class may appear in the exams.

In case there is a discrepancy between my notes and the textbook, follow my notes.

All the questions regarding exams should be asked in class. No answers to such questions will be given privately.

You may bring to the exams an 11" by 8.5" (A4-size) data sheet, on which you can write anything you like on both sides, but everything has to be hand-written in blue ink.

The mid-term exam covers the first three lectures. The final exam covers the entire course, but it emphasizes the material after the midterm. The course grade depends on the exam performance relative to the class average.

Homework assignments will not be collected. Solutions will be available before exams.

## Suggested Homework: MPP end-of-chapter questions

**Ch.1:** 1, 3, 4, 8, 15.

**Ch.2:** 1, 2, 3, 7, 14, 20, 24.

**Ch.3:** 1, 3, 11, 12.

**Ch.4:** 1, 4, 7.

**Ch.5:** 1, 7, 11, 19.

**Ch.6:** 1, 6, 8.

**Ch.8:** 2, 3, 4, 5, 7, 9.

Additional exercises are provided in the class notes.