

<b>Course Title</b>	:	Fixed Income Securities
<b>Course Code</b>	:	FIN3356
<b>Recommended Study Year</b>	:	3
<b>No. of Credits/Term</b>	:	3
<b>Model of Tuition</b>	:	Sectional Approach
<b>Class Contact Hours</b>	:	3 hours per week
<b>Category in Major Programme</b>	:	Stream Elective – Finance and RIM streams
<b>Pre-requisite</b>	:	FIN2300 Investment and Portfolio Management

### **Brief Course Description**

The course is designed to provide a description and analysis of fixed income securities. It covers the broad topical areas of: (i) the institutions, instruments, and operations of fixed income securities markets; (ii) the analysis and valuation of fixed income securities; (iii) the analysis of interest rates and term structure; (iv) interest rate related derivative instruments and how to use these contracts to reduce risk exposure and enhance the yields of fixed income portfolios. Class lectures will focus on the theoretical aspects of these securities and will use currently offered fixed interest products to illustrate the theories.

### **Aims**

The course aims to provide a comprehensive introduction to fixed income securities by covering the theoretical, empirical, and structural aspects of fixed income securities and their derivatives, and enables the students to apply these concepts and tools for investing, hedging, market-making, and speculating.

### **Learning Outcomes (LOs)**

On completion of the course, students are expected to:

1. Identify and distinguish between the different types of fixed income securities and understand the operations of fixed income markets;
2. Apply techniques to price fixed income securities;
3. Illustrate the term structure of interest rates, make use of analytic tools in bond portfolio management and interest rate risk management, and identify various sources of credit risk and apply structural models to estimate the risk;

4. Demonstrate how to apply derivative instruments to hedge the risks and enhance the returns of fixed income securities, and critically evaluate structured products related to fixed income securities and derivatives.

### **Indicative Contents**

#### **Introduction to Fixed Income Securities**

Issuers

Fixed Income Instruments

Financial Intermediaries

Money Market Instruments

#### **Bond Valuation**

Bond Pricing and Valuation

Bond Yield Measures

Bond Price Volatility

Term Structure of Interest Rates

#### **Bond Portfolio Management**

Duration and Convexity

Interest Rate Models

Credit Risk

#### **Bonds with Other Features and Credit Derivatives**

Bonds with Embedded Options

Forward and Futures on Bond

Hedging and Interest Rate Related Derivative Securities

#### **Mortgages and Mortgage-Backed Securities**

Mortgages

Mortgage-Backed Securities

Securitization

### **Teaching Methods**

Sectional approach. The lectures will focus on exploring market conventions and the theoretical underpinnings of the subject. Actual products, contracts, and trading strategies will be discussed. Spreadsheet and simulation exercises will be used to illustrate concepts and value bond instruments. Students are expected to study the assigned materials before class meetings.

### **Measurement of Learning Outcomes**

1. Class assignments (LO1, LO2)

Class assignments will be used to facilitate class discussions. These assignments will relate to the characteristics of fixed income securities and their valuation.

2. Group Project (LO3, LO4)  
Students will write a group report on some aspect of fixed income securities. The report could be an analysis of a currently-marketed structured product, a review of the literature, an empirical study of interest rates, or a credit analysis. The exact form of the group projects will be determined by the Instructor and will vary from year to year depending on recent developments in the market.
3. A mid-term examination (LO1, LO2, LO3)
4. A final examination. This examination will test students' abilities to apply the knowledge and skills learnt in class. (LO1, LO2, LO3, LO4)

**Assessment**

Assignments	10%
Project	15%
Mid-term Examination	25%
Final Examination	50%
Total	<hr/> 100%

**Required/Essential Reading**

Barbara S. Petitt, Jerald E. Pinto, Wendy L. Pirie, Bob Kopprasch, *Fixed Income Analysis (CFA Institute Investment Series)*, latest edition, Wiley.

**Recommended/Supplemental Readings**

Fabozzi, F., *Bond Markets, Analysis and Strategies*, 8<sup>th</sup> edition, Prentice Hall, 2012.

Martellini, L., P. Priaulet, and S. Priaulet, *Fixed Income Securities: Valuation, Risk Management and Portfolio Strategies*, latest edition, Wiley, 2003.

Choudry, M., *Fixed Income Markets: Instruments, Applications, Mathematics*, Wiley, 2004.

Tuckman, B. and A. Serrat, *Fixed Income Securities: Tools for Today's Markets*, 3<sup>rd</sup> edition, University edition, Wiley, 2011.

Colquitt, J., *Credit Risk Management: How to Avoid Lending Disasters and Maximise Earnings*, McGraw-Hill, 2007.

Articles from Journal of Fixed Income and other journals.

**Important Notes**

- (1) Students are expected to spend a total of 7 hours (i.e. 3 hours of class contact and 4 hours of personal study) per week to achieve the course learning outcomes.
- (2) Students shall be aware of the University regulations about dishonest practice in course work, tests and examinations, and the possible consequences as stipulated in the Regulations Governing University Examinations. In particular, plagiarism, being a kind of dishonest practice, is “the presentation of another person’s work without proper acknowledgement of the source, including exact phrases, or summarised ideas, or even footnotes/citations, whether protected by copyright or not, as the student’s own work”. Students are required to strictly follow university regulations governing academic integrity and honesty.
- (3) Students are required to submit writing assignment(s) using Turnitin.
- (4) To enhance students’ understanding of plagiarism, a mini-course “Online Tutorial on Plagiarism Awareness” is available on <https://pla.ln.edu.hk/>.