Fixed-Income Securities

Course Outline
Academic Semester: 2025/26

1. General

School	**School of Finance and Statistics**		
Academic Unit	**Department of Banking and Financial Management**		
Level of Studies	**Undergraduate**		
Course Code	**XPXPH27**		
Semester	**4th**		
Course Title	**Fixed-Income Securities**		
Idependent Teaching Activities		Weekly Teaching Hours	Credits
	Lectures	**4**	**7,5**
Course Type	**General Background**		
Prerequite Courses			
Language of Instruction and Examinations	**Greek**		
Is the course offered to Erasmus Students?	**No**		
Url (Eclass)	**https://eclass.unipi.gr/courses/XTD103/**		

2. Learning Outcomes

Learning Outcomes

This is an introductory course into the markets of fixed-income securities, with emphasis given on bonds. The material covers the fixed-income instruments of debt markets and aims to explain their fundamental characteristics. With priority given to bonds, students ought to understand the valuation of bonds, be able to calculate their fair price, and discern the risks that affect their mark-to-market price.

Moreover, students will be able to calculate the bonds' price volatility from the interest rate changes and suggest appropriate hedging strategies.

Last, students should comprehend the fundamental models of interest rate term structure and its impact on debt markets.

General Competences

- Individual Work
- Decision Making

3. Syllabus

1. Introduction. Description of bonds – Bonds' issuers – Maturity characteristics – Floating rate and Fixed rate securities – Bonds with an embedded option – Risks associated to bonds
2. 2Valuations of bonds. Fair price of bonds – Calculation using the PV of annuity – Using spot rate and forward rate as discount rates – Calculation of accrued interest
3. Yield to Maturity. YTM as internal rate of return – The relation between price and yield to maturity – Conventional yield measures – Total return

4. Bond price volatility. Measures of bond price volatility – DV01' – Duration – Modified duration – Macaulay duration – Convexity – Calculation of duration and convexity for bond portfolios
5. Factors affecting bond yields. Benchmark spread – Relative yield spread – Yield Ratio – Determinants of yield spread
6. Treasury bonds and other securities. Treasury securities – TIPS – treasury bond auctions -Valuation of Treasury Bills – Zero coupon bonds
7. Corporate bonds and other securities. Corporate bonds – Medium Term Notes – Commercial Papers – Asset Backed Securities – Seniority of Debt – bankruptcy and Crdititors' rights
8. Interest rate models. One factor models -Binomial model – Continuous time models -Binomial approach to continuous time models (Ho-Lee, Vasicek, CIR)
9. Bonds with Embedded Option. Bonds with call provision – Static spread – Callable bonds and investment characteristics – Valuation with the Kalotay -Williams – Fabozzi model– Valuation with call provision
10. Credit default swaps. Credit events – Single name CDS -Index CDS – CDS with fixed recall – CDS valuation

4. Teaching and Learning Methods - Evaluation

Delivery	**Face-to-Face**	
Use of Information and Communications Technology	**E-class platform support**	
Teaching Methods	**Activity**	**Semester Workload**
	Lectures	52
	Independent Study	75,5
	Exercises	60
	Course Total	**187,5**
Student Performance Evaluation	Written Final Exam, which includes: • short-answer questions • problem-solving questions	

5. Attached Bibliography

Suggested Bibliography

- Frank J. Fabozzi. Αγορά Ομολόγων. Ανάλυση και Στρατηγικές, (2016). Εκδόσεις Broken Hill
- Bruce Tuckman. Χρεόγραφα Σταθερού Εισοδήματος, (2010), Εκδόσεις Παπαζήση

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