FIN4243: DEBT & MONEY MARKETS

Fall 2023

Instructor: Boyuan Li Email: boyuanli@ufl.edu Office Hours: W 2-3 PM or by appointment Classroom: 230 Heavener Hall Schedule: M,W | Period 9-10 (4:05-6:00 PM) Office: Stuzin 311

Course Website: Canvas http://elearning.ufl.edu/

Recommended Textbook: "Bond Markets, Analysis, and Strategies" 10th Edition, by Francesco A. Fabozzi and Frank J. Fabozzi **Other Requirements:** A financial calculator and a computer with Excel 2007 or newer

Course Description

This course studies debt and money markets, and develops methods for valuing fixed income securities. We will cover a wide range of bonds, including traditional bonds, bonds with embedded options, mortgagebacked securities, and swaps. We will also introduce duration and convexity, which are an important risk management topic in the context of immunization. Further, the course explains the concept of term structure and applications using curve strategies.

Pre-requisite

This course focuses on concepts associated with the time value of money. You should already be familiar with the following:

- 1) basic financial knowledge
- 2) basic statistics concepts such as mean, variance, standard deviation, correlation, and covariance
- 3) Microsoft Excel

Learning Objectives

By the end of the semester, student will be able to:

- 1. Calculate price of bond, yield, and rate of return.
- 2. Describe duration and convexity and apply them to bond immunization.
- 3. Explain the concept of term structure and use it while calculating bond prices.
- 4. Use curve strategies to identify misevaluations and analyze trades.
- 5. Illustrate mortgage-backed securities and compute mortgage payments.
- 6. Understand several types of swaps such as interest rate swaps and credit default swaps.

Assignments

Five problem sets will be assigned and posted on the course website. The problem sets will be graded so you are expected to show clearly how you derive the solutions. You can upload your solutions to Canvas in formats of Microsoft Word or pdf. The due date of a problem set is typically one week after the problem set is posted. I will accept late submissions, but I will subtract 20% from the full points of that problem set for each day past due date.

Exams

Administrative details of exams will be announced during class at least a week before exam dates. The final exam will focus on the topics after the mid-term, but you are expected to understand the concepts and the computation methods covered before the mid-term. <u>A make-up exam is not allowed without any appropriate reason</u>.

Course Grading

 $\begin{array}{l} \mbox{Attendance and participation} - 10\% \\ \mbox{Assignments} - 20\% \\ \mbox{Exam 1} - 30\% \\ \mbox{Exam 2} - 40\% \end{array}$

Grading scales are as follows (rounding X to two decimal places):

Grade	Percentage (X)	
А	$X \ge 93$	
A-	$90 \le X < 93$	
B+	$87 \le X \le 90$	
В	$83 \le X \le 87$	
В-	$80 \le X < 83$	
C+	$77 \le X < 80$	
С	$73 \le X < 77$	
C-	$70 \le X < 73$	
D+	$67 \le X < 70$	
D	$63 \le X \le 67$	
D-	$60 \le X \le 63$	
F	X < 60	

My objective is a B average in this class. If the average is below B, I will boost grades with a curve after the final exam. I will not reduce grades with a curve even if they are higher than a B average (In other words, I will take a maximum of those two methods for your grades).

Information on current grading policy of University of Florida is shown in the following link: <u>https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx</u>.

Attendance and Class Expectations

Attendance is required, so please come to each class on time and prepared. Excused absences must be communicated with the instructor in advance and require appropriate documentation. Use of cell phone is not allowed during class time.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals.

Academic Honesty

In adopting this Honor Code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the University community. Students who enroll at the University

commit to holding themselves and their peers to the high standard of honor required by the Honor Code. Any individual who becomes aware of a violation of the Honor Code is bound by honor to take corrective action. Student and faculty support are crucial to the success of the Honor Code. The quality of a University of Florida education is dependent upon the community acceptance and enforcement of the Honor Code. For further information, please visit <u>https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code</u>.

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the <u>Disability Resource Center</u>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Other Policies

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture **does not** include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Date	Content	Problem Set	Textbook Chapter(s)
Aug 23	Class Intro & Debt Market Overview		1
Aug 28	Bond Pricing, Yield, and Rate of Return		2,3,7
Aug 30	Bond Pricing, Yield, and Rate of Return		2,3,7
Sep 4	(No class, Labor Day)		
Sep 6	Bond Pricing, Yield, and Rate of Return	Problem Set 1 Posted	2,3,7
Sep 11	Bond Pricing, Yield, and Rate of Return		2,3,7
Sep 13	Duration, Convexity, and Applications	Problem Set 1 Due	4,27
Sep 18	Duration, Convexity, and Applications	Problem Set 2 Posted	4,27
Sep 20	(No class, career fair)		
Sep 25	Duration, Convexity, and Applications	Problem Set 2 Due	4,27
Sep 27	Duration, Convexity, and Applications		4,27
Oct 2	Term Structure		6
Oct 4	Term Structure	Problem Set 3 Posted	6
Oct 9	Term Structure		6
Oct 11	Exam 1 Review	Problem Set 3 Due	1,2,3,4,6,7,27
Oct 16	Exam 1 (In-class)		1,2,3,4,6,7,27
Oct 18	Curve Strategies		24
Oct 23	Curve Strategies		24
Oct 25	Curve Strategies		24
Oct 30	Callable Bonds		8,19
Nov 1	Callable Bonds	Problem Set 4 Posted	8,19
Nov 6	Callable Bonds		8,19
Nov 8	Mortgage-Backed Securities	Problem Set 4 Due	11,12,14,15
Nov 13	Mortgage-Backed Securities		11,12,14,15
Nov 15	Mortgage-Backed Securities		11,12,14,15
Nov 20	(No class, Thanksgiving)		
Nov 27	Swaps	Problem Set 5 Posted	31,32
Nov 29	Swaps		31,32
Dec 4	Exam 2 Review	Problem Set 5 Due	8,11,12,14,15,19,24,31,32
Dec 6	Exam 2 (In-class)		8,11,12,14,15,19,24,31,32

Course Schedule (Tentative and subject to change)