

**FINN 6211 Fixed Income Securities and Credit Risk
Spring 2020**

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Class Meeting Day/Time: Monday 5:30pm - 8:15pm, 601 Center City
Office Hours: Monday 4:30pm - 5:30pm Center City or by appointment

Prerequisite: FINN 6210 Derivatives I: Financial Elements of Derivatives

Required Text: *Bond Markets, Analysis, and Strategies*, by Frank J. Fabozzi, 9th edition, 2015, Pearson.

Optional Text: *Fixed Income Securities: Tools for Today's Markets*, by Bruce Tuckman and Angel Serrat, 3rd edition, 2012, Wiley.

Course Objective:

The purpose of this course is to introduce the students to various aspects of the fixed-income securities and markets. Topics include the basic concepts of the fixed income securities, interest rates and yield curve, bond volatility measures, major fixed income sectors, mortgage-backed securities, bonds with embedded options, credit risk analysis, bond portfolio management, hedging, and financial risk management.

The material in this course is inherently quantitative. We will also introduce institutional details of the markets and market participants. Overall, you will get a big picture of the fixed income securities and markets. By the end of the course, you should expect to be able to

- Master the basic concepts of bond mathematics: price, yield, duration, and convexity, and yield curve.
- Understand the term structure theories.
- Learn about various sectors in the fixed income security market, including the Treasury, agency, corporate, international, and mortgage-backed sectors.
- Grasp the structure and valuation of mortgage-backed securities and bonds with embedded options.
- Examine credit risk.
- Learn about bond portfolio management strategies and hedging.
- Explore the concepts and models of financial risk management.

Preparing for Class

Lecture notes will be made available prior to class sessions. Please bring your notes to class to follow along the lecture presentation. Most lectures are supplemented with required readings from the Fabozzi text and supplemental readings from the Tuckman text. All lecture notes will be posted on Canvas. I will also post class announcements, syllabus, assignments, formula sheets, and other supplemental materials during the semester on Canvas.

Homework Assignments

There will be three individual homework assignments for this class. The posting and due dates are shown in the course schedule below. For each homework assignment, please submit hard copy of your completed homework in class on the due date.

Examination

There will be a midterm exam during the semester and a final exam during the university scheduled final exam week. Each examination will include calculation-type problems and discussion-type questions. A formula sheet will be provided for each exam. Please see the course schedule below for the dates of the exams. Check your schedule to make sure that no scheduling conflicts arise.

Make-up exams will be arranged **ONLY IF** your absence is work-related and cannot be avoided. For planned absences (such as business travel or conferences), please let me know as soon as you are aware of these events so we can arrange for an alternative time/date for the exam. In the event of absence due to emergencies, the weight of one exam will be assigned to the other exam. For either planned or emergency-related absences, please provide supporting documents for the absence (for example, a doctor's note, business travel itinerary, etc.).

Case

We will use one Darden case in this course. Please go to <https://www.study.net/default.asp> and click on "Register" on the top right hand corner to register as a student (no cost to register). Once you have registered, please look for University of North Carolina at Charlotte and course name (FINN 6211: Fixed Income Securities and Credit Risk (Spring 2020), Instructor is Tao-hsien dolly King, Course ID is "FINN 6211") and you should be able find one case under this course name: Carrefour S.A. (UVA-F-1470). To have online viewing in PDF and print right of the case, you would need to purchase the royalty (course price is \$4.15 for the case). **You only need to pay \$4.15 to download the PDF file of the case and print it out.** You do **NOT** need to buy the Course TEXTPAK (the printed hard copy which costs an additional \$1.50). If you have any questions, let me know. We will use the Carrefour S.A. case for a homework assignment.

Group Exercises in Class

There will be two group exercises in class. The class will be divided into two-person groups and given a specified time to work on each exercise in the assigned groups. This is a good opportunity to demonstrate your analytical skills and teamwork abilities. In each exercise, only one completed answer sheet per group needs to be submitted. Each exercise will account for 5% of your grade.

Grading:

Three Homework Assignments	30%
Min (Midterm Exam, Final Exam)	10%
Max (Midterm Exam, Final Exam)	50%
Two Group Exercises	10%
Total	100%

Grade Range: A: 90 to 100
 B: 80 to 89
 C: 70 to 79, etc.
Grades will be curved is necessary.

UNC Charlotte "Code of Student Academic Integrity" (the Code)

All UNC Charlotte students have the responsibility to be familiar with and to observe the requirements of The UNC Charlotte Code of Student Academic Integrity (see the Catalog). This Code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials (such as Library books on reserve), and complicity in academic dishonesty (helping others to violate the Code). Any further specific requirements or permission regarding academic integrity in this course will be stated by the instructor, and are also binding on the students in this course. Students who violate the Code can be punished to the extent of being permanently expelled from UNC Charlotte and having this fact recorded on their official transcripts. The normal penalty is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to "F." If you do not have a copy of the Code, you can obtain one from the Dean of Students Office or access it online at <http://www.legal.uncc.edu/policies/ps-105.html>. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty they become aware of to the course instructor who is responsible for dealing with them.

Use of Cell Phones and Other Communications Devices

The use of cell phones or other communication devices is disruptive, and is therefore prohibited during class. Except in emergencies, those using such devices must leave the classroom for the remainder of the class period.

Disability Services

Students in this course seeking accommodations to disabilities must first consult with the Office of Disability Services (phone 704-687-4355, 230 Fretwell Building) and follow the instructions of that office for obtaining accommodations.

Course Schedule

Date	Topic	Readings
Jan 13	No Class (please review syllabus and Lecture 1) Introduction to the Fixed Income Securities (Lecture 1)	Fabozzi Ch.1. Tuckman Ch. 1
Jan 20	Dr. Martin Luther King Jr. Day, No Class	
Jan 27	Lecture 1, continued Bond Valuation and Yields (Lecture 2)	Fabozzi Ch. 2, 3 Tuckman Ch. 3
Feb 3	Bond Price Volatility (Lecture 3)	Fabozzi Ch. 4 Tuckman, Ch. 4
Feb 10	Lecture 3, continued Group Exercise 1 (Exercise questions will be provided in class) HW #1 Posted	
Feb 17	Factors Affecting Bond Yields and the Term Structure of Interest Rates (Lecture 4)	Fabozzi Ch. 5 Tuckman Ch. 2
Feb 24	Major Fixed Income Sectors (Lecture 5) HW#1 Due	Fabozzi Ch. 6, 7, 9
Mar 2	Spring break, No Class	
Mar 9	Midterm Exam (closed-books and notes), 5:30pm to 7:30pm	
Mar 16	Mortgage Loans and Agency Pass-through Securities (Lecture 6)	Fabozzi Ch. 10, 11 Tuckman Ch. 20
Mar 23	CMOs and Analysis of MBS (Lecture 7) Group Exercise 2 (Exercise questions will be provided in class)	Fabozzi Ch. 12, 19
Mar 30	Bonds with Embedded Options (Lecture 8)	Fabozzi Ch. 18, 20
Apr 6	Credit Risk (Lecture 9)	Fabozzi Ch. 21, 22
Apr 13	Bond Portfolio Management (Lecture 10) HW #2 Posted	Fabozzi Ch. 24, 25
Apr 20	Hedging (Lecture 11)	Tuckman Ch. 5, 6

Course Schedule (continued)

Date	Topic	Readings
Apr 27	Financial Risk Management (Lecture 12) HW#2 Due	
May 4	HW#3: Carrefour Case due (answer all questions for this case) Final Exam (closed-books and notes) 5:00 pm to 7:30 pm (according to university final exam schedule)	

Useful Web Links

Bond Markets

US Department of Treasury: <http://www.ustreas.gov/>

General discussion of today's events in the bond market, with the current yield curve:

Bloomberg: <http://www.bloomberg.com/markets/rates-bonds>

CNN Money: <http://money.cnn.com/markets/bondcenter/>

Reuters: <https://www.reuters.com/markets/bonds>

Historical data on interest rates:

Federal Reserve Interest Rate data: <http://www.federalreserve.gov/releases/h15/update/>

Federal Reserve Economic data: <http://research.stlouisfed.org/fred2/>

Bond Resources

Information on the bond markets:

SIFMA: <http://www.sifma.org/>

An Investors Guide to Bond Basics: <http://www.investinginbonds.com/>

Exchanges and Derivatives

CME Group: <http://www.cmegroup.com/>

The International Swaps and Derivatives Association (ISDA): <http://www.isda.org/>

Credit Rating Agencies

Moody's: <http://www.moodys.com/>

S&P: <http://www.standardandpoors.com/>

Fitch: <http://www.fitchratings.com/>

Bond Managers

Leading fixed-income managers:

Pimco: <https://www.pimco.com/>

BlackRock: <http://www.blackrock.com/>

Goldman Sachs: <http://www.goldmansachs.com>