FINN 6211 Fixed Income Securities and Credit Risk
Fall 2021

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Department of Finance
Belk College of Business
University of North Carolina at Charlotte

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Class Meeting Day/Time: Monday 5:30 - 8:15pm, Center City 1105
Office Hours: Monday 4:30-5:30 pm at Center City 1105,
Tuesday 10-11 am via Zoom, and by appointment
Prerequisite: FINN 6210 Derivatives I: Financial Elements of Derivatives
Required Text: *Bond Markets, Analysis, and Strategies*, by Frank J. Fabozzi, 9th

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 and supplemental materials will be made available on Canvas prior to class sessions.
Please have these materials handy during class meetings so you can follow along the lecture and
discussions. Most lectures are supplemented with required readings from the Fabozzi text and supplemental readings from the Tuckman text. I will also post class announcements, syllabus, assignments, formula sheets, and other supplemental materials during the semester on Canvas.

**Homework Assignments**
There will be 3 individual homework assignments for this class. The posting and due dates are shown in the course schedule below. For each homework assignment, please submit your completed homework in a single PDF file on Canvas on the due date.

**Examination**
There will be an in-class midterm exam during the semester and an in-class 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](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 (Fall 2021), 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 $3.70 for the case). **You only need to pay $3.70 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 Homework #3.

**Group Exercises**
There will be 2 group exercises. The class will be divided into two-person groups and given a specified time to work on each exercise in class. This is a good opportunity to demonstrate your analytical skills and teamwork abilities. In each exercise, only one completed set of answers per group needs to be submitted. Each exercise will account for 5% of your grade.
Grading:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Three Homework Assignments</td>
<td>30%</td>
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<tr>
<td>Min (Midterm Exam, Final Exam)</td>
<td>10%</td>
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<tr>
<td>Max (Midterm Exam, Final Exam)</td>
<td>50%</td>
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<tr>
<td>Two Group Exercises</td>
<td>10%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Grade Range:  
A: 90 to 100  
B: 80 to 89  
C: 70 to 79, etc.  

*Grades will be curved if 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](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.

**University Policy on Face Coverings in Classrooms and Labs**

Please note that university policy indicates that mask-wearing is **required** for everyone in all indoor spaces. In particular, the policy indicates that: “It is the current policy of UNC Charlotte that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the 49er community. Such behaviors specifically include the requirement that all students properly wear CDC-compliant face coverings in all indoor spaces on campus, including classrooms and labs, **regardless of vaccination status**. Failure to comply with this policy in the classroom or lab may result in dismissal from the current class session. If the student refuses to leave the classroom or lab after being dismissed, the student may be referred to the Office of Student Conduct and Academic Integrity for charges under the [Code of Student Responsibility](http://www.legal.uncc.edu/policies/ps-105.html).”
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.
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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>Aug 23</td>
<td>Introduction to the Fixed Income Securities (Lecture 1)</td>
<td>Fabozzi Ch.1. Tuckman Ch. 1</td>
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<tr>
<td>Aug 30</td>
<td>Lecture 1, continued Bond Valuation and Yields (Lecture 2)</td>
<td>Fabozzi Ch. 2, 3 Tuckman Ch. 3</td>
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<td>Sep 6</td>
<td>Labor Day – No Class</td>
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<td>Sep 13</td>
<td>Bond Price Volatility (Lecture 3)</td>
<td>Fabozzi Ch. 4 Tuckman Ch. 4</td>
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<td>Sep 20</td>
<td>Lecture 3, continued Group Exercise 1 (Exercise questions will be provided in class) Homework #1 Posted on Canvas</td>
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<td>Sep 27</td>
<td>Factors Affecting Bond Yields and the Term Structure of Interest Rates (Lecture 4)</td>
<td>Fabozzi Ch. 5 Tuckman Ch. 2</td>
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<td>Oct 4</td>
<td>Major Fixed Income Sectors (Lecture 5)</td>
<td>Fabozzi Ch. 6, 7, 9</td>
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<td>Oct 11</td>
<td>Midterm Exam in class at 5:30-7:30pm (closed books and notes)</td>
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<td>Oct 18</td>
<td>Lecture 5, continued</td>
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<td>Oct 25</td>
<td>Mortgage Loans and Agency Pass-through Securities (Lecture 6)</td>
<td>Fabozzi Ch. 10, 11 Tuckman Ch. 20</td>
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<td>Nov 1</td>
<td>CMOs and Analysis of MBS (Lecture 7)</td>
<td>Fabozzi Ch. 12, 19</td>
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<td>Nov 8</td>
<td>Bonds with Embedded Options (Lecture 8)</td>
<td>Fabozzi Ch. 18, 20</td>
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<td>Nov 15</td>
<td>Credit Risk (Lecture 9)</td>
<td>Fabozzi Ch. 21, 22</td>
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<td>Nov 22</td>
<td>Bond Portfolio Management (Lecture 10)</td>
<td>Fabozzi Ch. 24, 25</td>
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<td>Nov 29</td>
<td>Lecture 10, continued Hedging (Lecture 11)</td>
<td>Tuckman Ch. 5, 6</td>
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<td>Date</td>
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<td>Dec 6</td>
<td>Lecture 11, continued</td>
<td>Homework #2 Due (submit on Canvas)</td>
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<td>Dec 13</td>
<td>Homework #3 due: Carrefour S.A. Case (submit your case analysis on Canvas)</td>
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<td>Final exam in class at 5:00-7:30pm (closed books and notes)</td>
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Useful Web Links

**Bond Markets**

General discussion of today’s events in the bond market, with the current yield curve:
Reuters: [https://www.reuters.com/markets/bonds](https://www.reuters.com/markets/bonds)

Historical data on interest rates:
Federal Reserve Interest Rate data: [http://www.federalreserve.gov/releases/h15/update/](http://www.federalreserve.gov/releases/h15/update/)
Federal Reserve Economic data: [http://research.stlouisfed.org/fred2/](http://research.stlouisfed.org/fred2/)

**Bond Resources**
Information on the bond markets:

**Exchanges and Derivatives**

**Credit Rating Agencies**

**Bond Managers**
Leading fixed-income managers:
Pimco: [https://www.pimco.com/](https://www.pimco.com/)
Goldman Sachs: [http://www.goldmansachs.com](http://www.goldmansachs.com)