## FIN4243, DEBT & MONEY MARKETS

#### **Fall 2017**

Instructor: Junho Oh

Email: junho.oh@warrington.ufl.edu

Office Hours: Mondays and Wednesdays 4-5 PM or by appointment

Office: STZ 303B

**Phone**: 352-727-0406

Class Schedule: Mondays and Wednesdays, periods 7-8 (1:55 p.m. to 3:50 p.m.)

Class Room: HVNR 240

Textbook: "Bond Markets, Analysis, and Strategies" Ninth Edition, by Frank Fabozzi

Course Credit: 4

Section: 2107

## **Course Description**

Recently, debt and money markets play an important role in finance. The securities in debt and money markets are fixed income securities, and they covers Treasury Bills (T-Bills), Certificate of Deposit (CD), Commercial paper, Banker's Acceptance, Eurodollars, etc. The most important function of debt and money markets is providing a firm with a channel of raising additional funds, and using excessive cash to obtain coupon rate.

This course describes debt and money markets, and develop methods for valuing fixed income securities. The course covers wide range of bonds, including traditional bond, bond with embedded optionality such as callable bonds, mortgage-backed securities, and swaps. The course introduces duration and convexity, which are an important risk management topic in the context of immunization. Moreover, the course also explains the concept of term structure and the applications using curve strategies.

## **Learning Objectives**

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 link it to calculate price of a bond.
- 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.

### **Pre-requisite**

This course focuses on concepts associated with the time value of money. In order to calculate the value of fixed income securities, students should have a basic mathematical background and financial knowledge. Students should be also comfortable with managing excel spreadsheet for assignments.

#### **Materials**

The required textbook for this course is "Bond Markets, Analysis and Strategies," *Ninth Edition* by Frank J. Fabozzi. Reading chapters are indicated at the end of lecture slides. Lecture slides, problem sets, and solutions are posted on the class webpage. **A financial calculator is required.** 

### **Other Helpful Resources**

Regarding technical issues with e-learning system, please contact <u>Learning-support@ufl.edu</u> or <u>https://kb.helpdesk.ufl.edu/FAQs/E-Learning</u>.

### **Assignments (Problem Sets)**

Five problem sets will be assigned to students. The problem sets will be posted in the course website. The problem sets will be graded so that students should elaborate how to derive their solutions. Students can upload their solution by typing it via Microsoft Word, Excel, or scanning their own hand-writing. Due date of a problem set is one week after the problem set is posted. I will accept late submission, but I will subtract 20% from the full points for each day.

#### **Exams**

The details on exam will be announced during the class before the exam date. The final exam will focus on the topics after the mid-term, but students are required to understand the concepts and the computation methods that they have learned before the mid-term. A make-up exam is not allowed without any appropriate reason (such as a disease, an injury, and the conflict with other exam schedules). The schedule of the make-up exam will be arranged during the class.

#### Attendance

Students will be required to attend the class. The attendance will be recorded by calling students' name or checking in-class problem solving sheets. The in-class problem solving sheets will not be graded and serves only as checking attendance. Students can absent maximum 5 classes without any adverse effect. If there is any reason to miss the class more than 5 times, students must let me know the reason via e-mail. Since late arrivals disturb the class, students are expected to arrive at the classroom on time. All the missing information due to absence without any notice is all your responsibility.

## **Course Grading**

Attendance—10%

Assignments—20%

Midterm Exam—30%

Final exam—40%

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

| Grade | Percentage (X)    |
|-------|-------------------|
| A     | X ≥ 93            |
| A-    | $90 \le X < 93$   |
| B+    | $87 \le X < 90$   |
| В     | $83 \le X < 87$   |
| B-    | $80 \le X < 83$   |
| C+    | $77 \le X < 80$   |
| С     | $73 \le X < 77$   |
| C-    | $70 \le X < 73$   |
| D+    | $67 \le X < 70$   |
| D     | $63 \le X < 67$   |
| 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: <a href="https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx">https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx</a>.

## **Re-grading Policy**

Students have an opportunity to claim the grading on their exam. The request for re-grading must be submitted in form of a Microsoft Word document. Other forms such as hand-writing is not permitted. All the request are allowed within the 1 week following the date when the result of exam is posted.

## **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 <a href="https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code">https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code</a>.

#### **Accommodations for Students with Disabilities**

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. For further information, visit <a href="http://www.dso.ufl.edu/drc">http://www.dso.ufl.edu/drc</a>.

#### **Gator Wellness**

Students' well-being is important to me and to the University of Florida. Please contact the Counseling and Wellness Center (<a href="https://www.counseling.ufl.edu/cwc/Default.aspx">https://www.counseling.ufl.edu/cwc/Default.aspx</a>, 352-392-1575) if you or your friends are in distress. If you are threatened, please contact the University Police Department (392-1111). In case of emergency, call 9-1-1.

# **Tentative Course Schedule**

Due date of a problem set is one week after the problem set is posted.

| Date                    | Content   | Chapter(s)     |
|-------------------------|---|----------------|
| Monday, August 21       | Class Intro & Debt Market Overview                                  | 1              |
| Wednesday, August 23    | Bond Pricing, Yield, and Rate of Return                             | 2,3,6          |
| Monday, August 28       | Bond Pricing, Yield, and Rate of Return                             | 2,3,6          |
| Wednesday, August 30    | Bond Pricing, Yield, and Rate of Return<br>Problem Set 1 (Post)     | 2,3,6          |
| Monday, September 4     | No class: Holiday   |                |
| Wednesday, September 6  | Duration, Convexity, and their Applications                         | 4,27           |
| Monday, September 11    | Duration, Convexity, and their Applications                         | 4,27           |
| Wednesday, September 13 | Duration, Convexity, and their Applications                         | 4,27           |
| Monday, September 18    | Duration, Convexity, and their Applications<br>Problem Set 2 (Post) | 4,27           |
| Wednesday, September 20 | Term Structure  | 5              |
| Monday, September 25    | Term Structure  | 5              |
| Wednesday, September 27 | Term Structure  | 5              |
| Monday, October 2       | Term Structure<br>Problem Set 3 (Post)                              | 5              |
| Wednesday, October 4    | Mid-term Review   | 1,2,3,4,5,6,27 |
| Monday, October 9       | Mid-Term Exam   | 1,2,3,4,5,6,27 |
| Wednesday, October 11   | Curve Strategies  | 24             |
| Monday, October 16      | Curve Strategies  | 24             |
| Wednesday, October 18   | Curve Strategies  | 24             |
| Monday, October 23      | Callable Bonds  | 7,18           |
| Wednesday, October 25   | Callable Bonds  | 7,18           |
| Monday, October 30      | Callable Bonds<br>Problem Set 4 (Post)                              | 7,18           |
| Wednesday, November 1   | Mortgage-Backed Securities  | 10,11,13,14    |

| Monday, November 6     | Mortgage-Backed Securities    | 10,11,13,14               |
|------------------------|-------------------------------|---------------------------|
| Wednesday, November 8  | Mortgage-Backed Securities    | 10,11,13,14               |
| Monday, November 13    | Mortgage-Backed Securities    | 10,11,13,14               |
| Wednesday, November 15 | Swaps                         | 31,32                     |
| Monday, November 20    | No class: Thanksgiving        |                           |
| Wednesday, November 22 | No class: Holiday             |                           |
| Monday, November 27    | Swaps<br>Problem Set 5 (Post) | 31,32                     |
| Wednesday, November 29 | Swaps                         | 31,32                     |
| Monday, December 4     | Final Review                  | 7,10,11,13,14,18,24,31,32 |
| Wednesday, December 6  | Final Exam                    | 7,10,11,13,14,18,24,31,32 |