Masters in Finance Program  
Spring 2015  
MFIN 512 - Fixed Income Analytics

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**Web:** SuCourse  
**Office Hours:** By appointment. It would be best if you take an appointment one or two days before you want to meet me, but there is also an open door policy if you don’t have an appointment.

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<thead>
<tr>
<th>Type</th>
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<tr>
<td>Class</td>
<td>9:40 AM - 12:30 PM</td>
<td>Tuesday</td>
<td>CAFE</td>
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**Course Content:**

Fixed-Income Analytics deals with the valuation and management of fixed-income portfolios. The course starts with the modern interpretation of the term-structure of interest rates. Building from the basic notion of time-value of money, the course introduces duration and convexity with an emphasis on their implications for portfolio management. The course includes the derivation of an arbitrage-free interest rate model to help price options embedded in interest-rate dependent securities.

**Learning Outcomes:**

Upon successful completion of the course, the student should be able to:

1. Describe the relationship between bond prices and yields  
2. Analyze and construct the term-structure of interest rates  
3. Investigate duration and convexity for bonds, and their implications for portfolio management  
4. Analyze arbitrage-free interest rate models and perform valuation of option-embedded bonds

**Course Material**

4. Other resources: Financial calculator; additional reading materials (provided by instructor).
**Instructional Design:**

In-class lectures introduce students with the foundations of the main financial concepts. Students will have the opportunity to apply the knowledge they acquire in the classes by completing the assignments and class projects.

**Grade Determinants**

Your overall course grade will be determined through 3 principal assessment tools: (a) Quizzes – 25% (b) Assignments – 25% (c) Final exam – 50%

The final course grade will be determined based on students’ overall ranking in the class.

1. **Quizzes (25%):** There will six quizzes that will be given at the beginning of each lecture. These quizzes will consist of easy questions that test your understanding of the material covered in the last lecture. You will **not** be able to make-up any quizzes that you miss. The lowest quiz grade will be dropped. These quizzes will serve as your ‘reality check’ in gauging how well you understand the course material.

2. **Assignments (25%):** There will be several homeworks or case assignments. The homeworks and case assignments will be uploaded on SuCourse. Assignments are to be done on an individual basis and you will be penalized if this is not the case.

3. **Final Exam (50%):** The final exam will test your understanding of fixed-income concepts and your ability to solve financial problems. The final exam date will be announced later.

**Course Policies**

- **Adherence to deadlines:** Please be sure to adhere to all established course deadlines and due dates. Make up exams or extensions will be granted only under rare and extenuating circumstances.

- **Attendance & Other Protocol:** Students are expected to attend all lectures and participate in class discussion. The general MFIN program attendance policy applies. Avoid being distracted by e-mails, phone calls, web surfing etc. during class. I strongly encourage you to consult with me on a regular basis to discuss how the class is going for you, get periodic updates on your individual standing in the class, review coursework, understand class expectations, and discuss other relevant issues as needed.

**Academic Honesty:**

Learning is enhanced through cooperation and as such you are encouraged to work in groups, ask for and give help freely in all appropriate settings. At the same time, as a matter of personal integrity, you should only represent your own work as yours. Although you are encouraged to discuss your ideas with others, it is important that you do not share your writing with anyone. Using ideas, text and other intellectual property developed by someone else while claiming it is your original work is **plagiarism.** Copying from others or providing answers or information, written or oral, to others is **cheating.** Unauthorized help from another person or having someone else write one’s paper or assignment is **collusion.** Cheating, plagiarism and collusion are serious offenses that could result in a failing grade and disciplinary action. Please pay utmost attention to avoid such accusations.
## Topics to be Covered

| Week 1 | Date: January 27th  
| Topic: Features of Fixed-Income Securities |
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| Week 2 | Date: February 3rd  
| Topic: Valuation of Debt Securities |
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| Week 3 | Date: February 10th  
| Topic: Yield Measures, Spot Rates and Forward Rates |
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| Week 4 | Date: February 17th  
| Topic: Term Structure and Volatility of Interest Rates |
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| Week 5 | Date: February 24th  
| Topic: Interest Rate Risk Management |
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| Week 6 | Date: March 3rd  
| Topic: Valuing Bonds With Embedded Options |
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| Week 7 | Date: March 10th  
| Topic: TBA |