1 Goals & Prerequisites

The goal of this course is to learn the basics of Fixed Income and Credit Risk. The first two-thirds of the course will largely focus on interest rate risk and derivative securities related to interest rates. The last third of the course will focus on corporate bonds and credit default swaps. This course is an intensive 7-week course, and I expect that it will be one of the more quantitative courses at Fisher College. I will try to focus largely on the tools, applications, and concepts that go into Fixed Income and Credit Risk analysis. You should expect to apply many formulas and do many calculations. In some cases, you will need to use Excel to do calculations.

The prerequisites for this course are Business Finance 4232 (Options & Futures II) and Business Management and Human Resources 2291 (Applied Business Skills and Environment II). I will assume that you have some familiarity with:

- Present Value
- Compounding of interest rates
- The CAPM
- Pricing options with trees
- Black-Scholes

If you are unfamiliar with these concepts, it will simply mean a little bit more work for you before class.

The course will focus largely on classroom lectures/discussions and problem assignments.
2 Course Materials

• Optional Textbooks:
  – *Fixed Income Markets and Their Derivatives*, 3rd edition, Suresh Sundaresan

*Comments:*
1. The first few weeks of the course will be closest to Veronesi’s book and the last part will be closest to Sundaresan’s book.
2. The OSU Library provides online access to many books including the Sundaresan and Veronesi books. Look for the eBook format after a search from the library website.

• Lecture slides: to be posted on the course homepage
• Assignments: to be posted on the course homepage

3 Course Evaluation

• Class participation (extra 10%): I encourage you to ask questions in class as this will help both you and your classmates to better understand the material. Moreover, asking question in class will help with your grade as well. For each legitimate question/comment, you’ll get 1% of the grade, for a maximum of 10% of your grade.

• Assignments: These are to be handed in and can be done in groups of up to four students. These are intended to allow you the chance to apply the concepts learned in class. Tentatively, there will be three assignments:
  1. Treasury Bonds and Trades
  2. Interest Rate Derivatives
  3. Credit Risk

• Final exam: The exam will be closed book and closed notes. You will be allowed to use a calculator (but not a computer nor a smart phone) and a cheat sheet (one-sided A4).

• Your final grade will be based on where you fall in the distribution for the class.

Grading Options:
• Option 1: 40% Assignments, 0% Midterm, 60% Final plus extra credits
• Option 2: 40% Assignments, 30% Midterm, 30% Final plus extra credits

4 Policies

**Students with disabilities.** Students with disabilities who request help will be given reasonable accommodation with the assistance of the University Office of Disability Services (292-3307, [http://www.ods.ohio-state.edu/](http://www.ods.ohio-state.edu/)). Feel free to speak to me in private about any related issues.

**Academic misconduct.** Students are expected to abide by the Fisher College of Business Honor Code.
Questions outside of class. For any questions that have not been sufficiently answered in class, e-mail me or make an appointment for office hours.

Absence from the final exam. Absence from the final exam will only be excused with written documentation from an appropriately accredited professional (e.g. a medical doctor).

5 Course Outline

The following schedule is tentative and subject to change based on how the class progresses. All listed readings are optional, though they may help to enhance your understanding of the lecture slides.

Valuation Basics

1. Introduction to Fixed Income Markets
   • Veronesi 1

2. Bond Valuation
   • Veronesi 2

3. Interest Rate Risk Management and Duration
   • Veronesi 3

4. Interest Rate Risk Management and Convexity
   • Veronesi 4

Derivatives

5. Spot Rates and Forward Rates
   • Veronesi 5

6. Interest Rate Swaps and Floating Rate Bonds
   • Veronesi 2.5, 5.4

7. Midterm exam

8. Interest Rate Options
   • Veronesi 9, 11.1, 12.1

Credit Risk

9. Introduction to the Corporate Bond Market & Bond Ratings
   • Sundaresan 10

10. The Merton Model & Corporate Bond Valuation
    • Sundaresan 10

11. Credit Default Swaps
    • Sundaresan 18