

School of Administrative Studies
Faculty of Liberal Arts and Professional Studies

AP/ADMS 4504 Fixed Income Securities and Risk Management

Fall 2023 – Course Outline

PLEASE READ THE OUTLINE CAREFULLY

Note: Tentative course outline revised August 19, 2023. Further revisions may be posted before the first day of fall classes. ADMS 4504 is in York's 12-week.

Instructor: Vikram Iyer, CFA

Moodle: Access to the website is granted automatically to enrolled students.

Email: viyer@yorku.ca (Note: You **must use your my.yorku.ca email** account. Include ADMS4504 in the subject line and include your **full name** and **student number** in the body of the message.)

Class hours and office hours:

In-person teaching is used for all Fall 2023 York courses.

- **Mondays : Section B 4pm–7pm**
In-person Location for Section B

Course Description

This course introduces you to fixed income securities and markets. Topics covered include debt securities, risks of investing in bonds, the pricing of fixed income securities, the measurement of interest rate risk, the term structure and volatility of interest rates, mortgage-backed and asset-backed securities, the valuation of mortgage-backed and asset-backed securities, credit analysis, and interest rate derivatives etc. A notable feature of this course is that it is based on the Chartered Financial Analyst (CFA) curriculum, thus preparing you for writing the fixed income parts of both the Level I and Level II of the CFA exams. **However, please note that this course is *not* a CFA prep course.** This course is both rich in content and fast in pace. So, significant out of class work is required for each of you.

Prerequisites

AP/ADMS 3531 (Personal Investment Management) is the prerequisite. **You are also highly recommended to take AP/ADMS 4503 (Derivative Securities) and AP/ADMS 4509 (Financial Risk Management) at your convenient time. But AP/ADMS 4503 is *no* longer a co-requisite for this course**

Student Evaluation

Mid Term Assignment (Group) 5%

| | |
|-------------------------------|-----|
| Final Term Assignment (Group) | 5% |
| Midterm Exam | 40% |
| Final Exam | 50% |

Required Textbook: *Fixed Income Analysis*, fourth edition, Barbara S. Petitt, John Wiley & Sons, Inc., 2019, ISBN: 978-1119627289; **or** 3rd edition, James F. Adams, and Donald J. Smith; **or** 2nd edition, Frank J. Fabozzi (edited), John Wiley & Sons, Inc., 2007, ISBN: 978-0470052211

Supplementary Readings

1. *Bond Markets, Analysis, and Strategies*, seventh, eighth, ninth, or tenth edition, Frank J. Fabozzi, Pearson Education Inc., 2010 for the seventh edition, 2013 for the eighth edition, 2016 for the ninth edition, or 2021 for the tenth edition.
2. *Fixed Income Securities: Tools for Today's Markets*, second edition, Bruce Tuckman, John Wiley & Sons, Inc., 2002.

Please note: A number of references will also be posted on the course website throughout the semester. You are required to read these references since they will be tested.

Method of Instruction

A combination of lectures, discussions and problem solving. Powerpoint slides will be available on the course Moodle website. Throughout the course, your active participation is encouraged. You are required to think, to analyze, to evaluate, and to apply problem-solving techniques. You are also expected to complete assigned readings and/or problem-solving materials for each class..

Calculator

You need a handheld non-programmable calculator that includes basic math functions (e.g. logarithm, exponential, square root and power functions). It also is helpful if the calculator includes basic financial functions (e.g. PV, FV, PMT). If you will pursue the CFA designation in the future, note that only two **financial calculators** are currently allowed for the CFA exams: the Texas Instruments BAII Plus (and BAII Plus Pro), and the Hewlett-Packard 12C (HP-12C).

Assignments

There are two **group assignments**. Groups of **4 to 6** students from the same section must **be formed by the 2nd class** and shouldn't be changed. Assignments are due on the assigned date (more info on submission TBA later). Extensions for submitting an assignment after the due date with penalty may be granted on a case-by-case basis. Approval must be obtained from the course director prior to the due date of the assignment. Late assignments, if approved, will be penalized by **5% per day** (e.g. if the assignment is marked out of 30 marks and is 2 days late, then 3 marks will be deducted from the total mark). No assignments will be accepted after the solution has been made available.

Midterm and Final Exams

If you **miss the midterm exam** for a legitimate reason, you will write a **cumulative final exam in coverage and in weight**. There is **NO make-up midterm exam**. Students with a **conflict due to religious reasons** will be accommodated. Please inform the course director in writing by the **third class**. All students who need a passing grade for the course must take the final exam.

Academic Honesty and Integrity

In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing [SPARK's Academic Integrity](#) module at the beginning of the course. Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities and can be punishable according to the Senate Policy on Academic Honesty.

Finance Area policy on DSA (Deferred Standing Agreement)

It is the policy of the Admin Studies finance area that instructors **will NOT sign a DSA form if you miss both the midterm and final exams**. Students in this situation will need to petition for deferred exam, late withdrawal, or a remedy appropriate to their circumstances.

Relevant University/LA&PS/School Regulations

The regulations on many aspects of coursework that apply to you are on:
<http://sas.laps.yorku.ca/students/>

You are responsible for understanding and following these regulations.

Forms and Policies

Attending Physician's Statement form, for missed midterm or missed final exam:
http://www.registrar.yorku.ca/pdf/attend_physician_statement.pdf

DSA Form for missed final exam:
http://www.registrar.yorku.ca/pdf/deferred_standing_agreement.pdf

DSA Process and Petitions for ADMS classes: <http://www.yorku.ca/laps/sas/links.html>

Tentative Course Schedule

The topic order will be as stated below. However, if we cannot finish the material listed in a lecture, the remainder will be carried forward to the following one. Dates and topics are *tentative and subject to change with notice*. **All times are in the Eastern Time Zone.**

| Week | Topic and Textbook Material | |
|------|-----------------------------|---|
| 1 | Sep 11, 4pm | Features of Debt Securities and Risks in Bond Investments: 4 th Chapter 1; or 2 nd Chapters 1 and 2 |
| 2 | Sep 18, 4pm | Overview of Bond Sectors, and Understanding Yield Spreads: 4 th Chapter 2; or 2 nd Chapters 3 and 4 Assignment 1 is posted |
| 3 | Sep 25, 4pm | Introduction to Fixed Income Valuation, and Duration and Convexity: 4 th Chapters 3 and 5; or 2 nd Chapters 5 and 7 |
| 4 | Oct 2, 4pm | Yield Measures, Spot Rates, and Forward Rates: 4 th Chapters 3 and 7; or 2 nd Chapter 6 |
| | Oct 9 | Reading Week Holiday |
| 5 | Oct 16, 4pm | Assignment 1 is due Midterm Exam covers Weeks 1 - 4 |
| 6 | Oct 23, 4pm | Term Structure and Volatility of Interest Rates: 4 th Chapter 7; or 2 nd Chapter 8 |
| 7 | Oct 30, 4pm | Binomial Model and Convertible Bonds: 4 th Chapters 8 and 9; or 2 nd Chapter 9 Assignment 2 is posted |
| 8 | Nov 6, 4pm | Binomial Model and Convertible Bonds: 4 th Chapters 8 and 9; or 2 nd Chapter 9 |
| 9 | Nov 13, 4pm | Asset-Backed Securities: MBS, CMO, ABS and CDO: 4 th Chapter 4; or 2 nd Chapters 10 and 11 |
| 10 | Nov 20, 4pm | Monte Carlo Simulation Model: Valuing MBS and ABS: 4 th Chapter 8 (section 8.4); or 2 nd Chapter 12 |
| 11 | Nov 27, 4pm | Monte Carlo Simulation Model: Valuing MBS and ABS: |

| | | |
|----|------------|--|
| | | <p>4th Chapter 8 (section 8.4); or 2nd Chapter 12</p> <p>Modelling the Term Structure of Interest Rates, and Interest Rate Derivatives: 4th Chapter 7; or 2nd Chapter 13</p> |
| 12 | Dec 4, 4pm | <p>Modelling the Term Structure of Interest Rates, and Interest Rate Derivatives: 4th Chapter 7; or 2nd Chapter 13</p> <p>Introduction to : General Principles and Models of Credit Analysis: 4th Chapters 6 and 10; or 2nd Chapter 15</p> <p>Assignment 2 is due</p> |
| | | |