



Carleton
University

Sprett
School of Business

**FINA 5531 Z
WINTER 2025
FIXED INCOME ANALYSIS 1**

Instructor: Dr. Yuriy Zabolotnyuk, CFA, FRM
Class time: Tuesdays 11:35am-2:25pm

Office Hours: TBA (Nicol 7022)
Email: yuriy.zabolotnyuk@carleton.ca

Email response policy: I will try my best to respond to emails received during business hours (8am-5pm) during the same business day. Emails received after hours will be responded to during the next business day.

Modality: in-person.

Pre-requisites & precluded Courses:

Enrolment in the Master of Finance program.

Course Calendar description from the [2023/2024 University calendar](#):

Fixed income securities and markets. Fixed-income valuation and return analysis. The term structure of interest rates and yield-spread analysis. Analysis of interest-rate risk and embedded options.

Course Description:

This is Part 1 of the two-part Fixed Income Analysis course. The goal of the course is to develop a conceptual framework for fixed income valuation and risk management. The course will introduce you to main types of fixed income securities and their markets. You will learn analytical tools used in bond portfolio and interest rate risk management including yield curve construction, duration and convexity, and term structure models. We will also discuss the arbitrage-free valuation framework and analyze bonds with embedded options.

Learning Outcomes:

1. Students will be able to describe the main features and characteristics of fixed-income securities and markets.
2. Students will be able to value fixed income securities using spot and forward rates.
3. Students will be able to demonstrate how to measure and manage interest rate risk.

Required Textbooks and Materials

CFA Institute. *Fixed Income Analysis*. 5th edition, Wiley, 2022. ISBN: 978-1-119-85056-4 (e-book)

CFA Institute. *Fixed Income Analysis Workbook*, 5th edition, Wiley, 2022. ISBN: 978-1-119-85301-5 (e-book)

Recommended Texts:

John Hull, *Options, Futures, and Other Derivatives*, 11th ed., Pearson, 2022, ISBN: 978-0136939979

Course Requirements & Methods of Evaluation:

| | |
|----------------------|-------------|
| Quizzes (2@15% each) | 30% |
| Group Project | 20% |
| Group Presentation | 15% |
| Final Exam | 35% |
| Total | 100% |

Quizzes: Quizzes are designed to focus on material that was just covered. They will be 20-30 minutes in length and will consist of a number of multiple-choice questions.

Group project: There will be a group project (to be posted on the course Brightspace page). Project is due on the date specified. Late submissions will not be accepted and will receive a grade of zero. Group project should be submitted in **printed and electronic** formats and are to be done in **groups of 3 students**.

Group presentations: Each **group of 3-4** students will have to present on a topic selected from a list of suggested topics distributed in class as well as to upload the presentation slides to Brightspace. The presentation should be no longer than 30 minutes.

Course Schedule (preliminary and subject to changes):

| Date | Topic | Chapter in FIA text (Hull) |
|-------------|--|----------------------------|
| January 7 | Introduction to Fixed-Income Securities and Markets | 1, 2 |
| January 14 | Valuation of Fixed Income Securities, Group 1 presentation | 3 |
| January 21 | Duration and Convexity, Quiz 1, Group 2 presentation | 5 |
| January 28 | Term Structure of Interest Rates, Group 3 presentation | 7 (4) |
| February 4 | Arbitrage-Free Valuation, Quiz 2, Group 4 presentation | 8 |
| February 11 | Bonds with Embedded Options, Group 5 presentation, Group Project Due on February 14 | 9 |
| TBA | Final Exam | |

Contribution to Learning Goals of the Program (Master of Finance):

| MFin Learning Goal | Not Covered | Introduced | Taught but Not Assessed | Taught <u>and</u> Assessed |
|--|--------------------|-------------------|--------------------------------|-----------------------------------|
| Learning Goal 1 - Ethical and Professional Conduct Graduates will conduct themselves in alignment with the CFA Code of Ethics and Standards of Professional Conduct. | ✓ | | | |
| Learning Goal 2 - Financial Markets, Institutions, and Instruments Graduates will demonstrate an understanding of financial markets, instruments, and institutions. | | | | ✓ |
| Learning Goal 3 - Portfolio Management Graduates will understand the motivations of investors and manage an investment portfolio that achieves those objectives. | | | | ✓ |
| Learning Goal 4 - Data Analysis Graduates will be proficient in data management, analytics, and modeling. | | | | ✓ |
| Learning Goal 5 – Communication Graduates will be effective communicators. | | | | ✓ |

ADDITIONAL INFORMATION

Course Sharing Websites:

Materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Recommended Calculator for Examinations:

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

Group Work:

The Sprott School of Business encourages group assignments. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership and other group skills. Group assignments are also an effective way to learn integrative skills for putting together a complex task. Your professor may assign one or more group tasks, assignments, or projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

If peer evaluation will be used as an input when assigning grades to group work, specify the procedure.

See the example below:

Peer Evaluation for Group Work

To deter social loafing and ensure fairness in grading, you will be asked to assess the contribution of your fellow group members. This information will be used when assigning the grade for the final project. The procedure is as follows: Each student should take 100 points and allocate those points to the various members of the group (including him/her/themselves) to reflect the contributions made by each member. For instance, if there are four members in a group and everyone contributed equally, each individual would receive 25 points. Conversely, if an individual contributed relatively little, the remaining group members might allocate few points to that member. To ensure that these peer evaluation scores are reasonable and free from personal bias, you will be asked to provide a detailed written explanation for your point allocation.

Letter Grades:

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

| | | | | |
|-------------|-------------|-------------|-------------|--------------|
| A+ = 90-100 | B+ = 77-79 | C+ = 67-69 | D+ = 57-59 | F = Below 50 |
| A = 85-89 | B = 73-76 | C = 63-66 | D = 53-56 | |
| A - = 80-84 | B - = 70-72 | C - = 60-62 | D - = 50-52 | |

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

Academic Regulations:

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Requests for Academic Accommodation:

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

- **Pregnancy**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

- **Religious Obligations**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

- **Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. <https://carleton.ca/pmc/>

- **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/sexual-violence-support/>

- **Student Activities**

Carleton University recognizes the substantial benefits, to both the individual student and the university, that result from participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon

as possible after the need for accommodation is known to exist.
<https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: <https://students.carleton.ca/course-outline/>

Academic Integrity:

Violations of academic integrity—presenting another’s ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student—are a serious academic offence, weaken the quality of the degree, and will not be tolerated. Penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>

Centre for Student Academic Support:

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: <https://carleton.ca/csas/>

Other Important Information:

- Students must always retain a copy of all work that is submitted.
- All final grades are subject to the Dean’s approval.
- For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton cmail account. If you do not have or have yet to activate this account, you can do so by visiting <https://carleton.ca/its/get-started/new-students-2/>