



**BUSI 4511A**  
**Fixed Income Analysis**  
**Fall 2020**

**Instructor:** Dr. Yuriy Zabolotnyuk, CFA, FRM  
**Class time:** Friday 2:35pm-4:25pm in Zoom  
**Email:** yuriy.zabolotnyuk@carleton.ca  
**Office Hours:** Friday 1:35-2:25pm in Zoom

**Prerequisites**

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[BUSI 3500](#), [BUSI 3502](#), [BUSI 3512](#) with a grade of C- or higher in each, and [STAT 2607](#) with a grade of C- or higher.

The School of Business enforces all prerequisites. Only the Undergraduate Program Supervisor of the School can waive prerequisite requirements.

**Calendar Description:**

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Valuation of fixed income securities and interest rate derivatives including bonds, mortgage- and asset-based securities. Analytic tools used in bond portfolio and interest rate risk management including yield curve construction, duration and convexity, and term structure models.

**Course Objectives**

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The goal of the course is to develop a conceptual framework for fixed income valuation and risk management. The course will introduce you to valuation of fixed income securities and interest rate derivatives including bonds, mortgage- and asset-based securities. You will learn analytic tools used in bond portfolio and interest rate risk management including yield curve construction, duration and convexity, and term structure models.

**Class Modality**

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**The class will be delivered ONLINE. Each 3-hour weekly class will consist of two parts: (i) a 1-hour asynchronous (pre-recorded) lecture and (ii) a 2-hour synchronous (live) online Zoom class.**

**In order to participate in synchronous Zoom sessions, you will need a computer equipped with a web camera, microphone, and broadband internet connection.** You also need to create a free Zoom account. Zoom meeting details will be posted on cuLearn.

**Required Text and Materials**

Frank J. Fabozzi, “Fixed Income Analysis” 2<sup>nd</sup> edition, Wiley, 2007, ISBN 978-0470052211.

Frank J. Fabozzi, “Fixed Income Analysis Workbook” 2<sup>nd</sup> edition, Wiley, 2007, ISBN 978-0470069196.

John Hull, “Options, Futures, and Other Derivatives”, 10<sup>th</sup> edition., Prentice Hall, 2018, ISBN 978-0134472089.

**Course Evaluation**

	Grade weight
Quizzes (3@5% each)	15%
Group Projects (2 in total, group of 3 people max), 2@7.5%	15%
Group Presentation (group of 3 people max)	10%
Individual Presentation	10%
Midterm Exam	15%
Final Exam	35%

**Quizzes (online):** Quizzes are designed to focus on material that was just covered. They will be approximately 20 minutes in length and will consist of a number of multiple-choice questions. You will write quizzes in cuLearn.

**Group projects:** There will be two group projects (to be posted on the course CULearn page). Projects are due on the date specified, at the beginning of class. Late submissions will not be accepted and will receive a grade of zero. Group projects are to be submitted in **printed** format and are to be done in **groups of up to 3 students**.

**Group presentations (in Zoom):** Each group of **up to 3 people** will have to present on a topic selected from a list of suggested topics distributed in class. The presentation should be no longer than 20 minutes.

**Individual presentations (in Zoom):** Each student will have to present on a topic selected from a list of suggested topics distributed in class. The presentation should be no longer than 15 minutes.

**Midterm exam (online):** There will be an online midterm test. You will write the midterm exam in cuLearn.

**Final exam (online):** The date and location of the final exam will be announced through the University’s normal procedures for such matters. You will write the final exam in cuLearn. Be sure that you are available for the mid-term and final exams.

**NOTE:** The final exam will be comprehensive, covering material from the entire course. If you are awarded less than 40% on the final exam, you will receive an “F”, regardless of your total mark in the course.

Every effort will be made to mark fairly and accurately. Nonetheless, in some cases, students may call into question the grades awarded to assignments or tests. In such cases, please write a brief note describing the difficulty with the awarded grade and provide the note, to the instructor not later than seven calendar days following the return of the graded work. Please be sure to include your name and student number on the note to enable the instructor to identify it properly. Note that the resulting remarking may lead to a lower grade.

### ***Exam and Quiz Attendance***

If a student is unable to sit for a quiz or mid-term test due to verifiable illness (or, in rare cases, some other circumstances beyond your control), the student will be given a choice to write the test on an alternate date or mark allocation to that quiz will be allocated to remaining quizzes; the mark allocation for the mid-term test will be allocated to the final exam. If a student is unable to sit for the final exam, the student may apply to the Registrar’s Office to write a deferred examination. Deferral final examination will only be granted to students showing satisfactory in-term performance (as described below). Please also see Sections 2.4, 2.5 and 2.6 of the Undergraduate Calendar. It should be noted that deferred examinations are not granted to students who make travel plans that conflict with the examination period.

### **Satisfactory In-term Performance**

1. The criterion and the standard for Satisfactory In-term Performance are as follow: 50% of total pre-final exam work (cumulative) marks. This includes total marks for all quizzes and midterm exam.
2. Unsatisfactory In-term Performance in this course will lead to

Failure in this course (regardless of the performance at the Final exam or final project)	<b>No</b>
FND grade in this course (in case of missed Final exam)	<b>Yes</b>

### ***Course Schedule (tentative and subject to changes)***

<b>Date</b>	<b>Topic</b>	<b>Chapters in Fabozzi (Hull)</b>
	Introduction to Debt Securities <b>You are responsible for reading this material on your own. You will be tested on it on Quiz 1.</b>	1-3
Sept.11	Interest Rates and Bond Yields	4 (4)
Sept.18	Valuation of Debt Securities, <b>Group 1 presentation</b>	5
Sept.25	<b>Quiz 1</b> , Term Structure of Interest Rates	6, 8
Oct.2	Duration and Convexity, <b>Group 2 presentation</b>	7
Oct.9	Valuation of Bonds with Embedded Options	9
Oct.16	Mortgage-Backed Securities, <b>Group 3 presentation</b>	10
<b>Oct.23</b>	<b>Midterm Exam (online)</b>	

<b>Oct.30</b>	<b>Fall break (no class)</b>	
Nov. 6	Interest Rate Derivatives, <b>Group 4 presentation</b>	13, 14 (6)
Nov.13	<b>Quiz 2</b> , Credit Risk Analysis	15 (24)
Nov.20	Credit Derivatives, <b>Group 5 presentation</b>	24 (25)
Nov.27	<b>Quiz 3, Individual presentations</b>	
Dec.4	<b>Individual presentations</b>	

## 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).

### Required calculator in BUSI course 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 in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follower-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/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.

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
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

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 obligation**

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:

[carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Religious obligation**

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:

[carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Academic Accommodations for 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](mailto: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. [carleton.ca/pmc](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: [carleton.ca/sexual-violence-support](https://carleton.ca/sexual-violence-support)

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must 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: [students.carleton.ca/course-outline](https://students.carleton.ca/course-outline)

### **Academic Integrity**

Violations of academic integrity are a serious academic offence. 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 – 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/>.

### **Sprott Student Services**

The Sprott student services office, located in 710 Dunton Tower, offers academic advising, study skills advising, and overall academic success support. If you are having a difficult time with this course or others, or just need some guidance on how to successfully complete your Sprott degree, please drop in\* any weekday between 8:30am and 4:30pm. Our advisors are happy to discuss grades, course selection, tutoring, concentrations, and will ensure that you get connected with the resources you need to succeed! <http://sprott.carleton.ca/students/undergraduate/learning-support/>

\* Note that the office is physically closed. However, e-drop in is available between 8:30-4:30 until social distancing requirements are updated by the Province.

### **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: [carleton.ca/csas](http://carleton.ca/csas).

### **Important Information:**

- Students must always retain a hard 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 may wish to do so by visiting <https://carleton.ca/its/get-started/new-students-2/>
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