

Commerce 4FJ3 Fixed Income Analysis Winter 2023 Course Outline

**Finance and Business Economics Area
DeGroote School of Business
McMaster University**

INSTRUCTOR AND CONTACT INFORMATION

Instructor: **Dr. Sultan M. Awan**
awan@mcmaster.ca

Student TA
Skylar Wang
wangx342@mcmaster.ca

Class Schedule: WED 8:30~11:20 AM (C02) and WED 11:30 AM ~ 2:20 PM (C01)
Office Hours: After class or by appointment

COURSE ELEMENTS

Credit Value:	3	Team skills:	Yes	IT skills:	Yes	Global:	Yes
Avenue:	Yes	Verbal skills:	Yes	Numeracy:	Yes	Group Work:	Yes
Participation:	Yes	Written skills:	Yes	Innovation:	Yes	Social:	Yes
Evidence-based:	Yes	Experiential:	No	Final Exam:	Yes	Guest speaker(s):	No

COURSE DESCRIPTION

This course provides an advanced treatment of fixed income analysis. Topics include bond analysis, term structure of interest rates, interest rate sensitivity of fixed-income securities, managing interest rate risk, mortgage-backed securities, interest-rate swaps, credit derivatives, interest-rate futures and interest-rate options.

LEARNING OUTCOMES

Upon successful completion of this course, students will be able to complete the following key tasks:

- Understand the features and characteristics of different types of bond instruments
- Pricing and volatility characteristics of the asset class
- Valuation techniques and considerations

REQUIRED COURSE MATERIALS AND READINGS

Bond Markets, Analysis, and Strategies by F.J. Fabozzi and F.A. Fabozzi, 10th edition.

[Bond Markets, Analysis, and Strategies, tenth edition by Frank J. Fabozzi and Francesco A. Fabozzi | Penguin Random House Canada](#)

For course contents such as lecture slides, term assignments, other reference materials, and course-related announcements, please visit the course webpage on Avenue:

<http://avenue.mcmaster.ca>

Texas Instruments BA II Plus financial calculator is recommended for this course. However, any calculator that performs time value of money functions is acceptable.

OPTIONAL COURSE READINGS

Options, Futures and Other Derivatives by John Hull, 9th edition.

Financial Modeling by Simon Benninga, 2nd edition, The MIT Press.

EVALUATION

Learning in this course results primarily from lectures, in-class discussions, home readings, and from assigned problem sets. Students learning and progress in this course will be evaluated on a group and individual basis. Final letter grades in this course will be calculated as follows:

Components and Weights

Assignment # 1	Group Assignment	15%
Midterm Exam	Numerical and Qualitative Questions	30%
Assignment # 2	Group Assignment	15%
Final Exam	Numerical and Qualitative Questions (Semi-Cumulative)	40%
Total		100%

Assigned Group Work

Numerical and Qualitative questions will be assigned during this term; one in the pre-midterm period (assignment #1) and one in the post-midterm period (assignment #2). As some algebra and fundamental statistical concepts are important components of the quantitative valuation of fixed incomes securities, it is imperative students practice quantitative problems that require the use of such statistical and analytical tools. Therefore, two assigned evaluation activities should provide students an opportunity to practice numerical and qualitative questions with the help of the concepts and methodologies learned in class. As a fairly large number of questions on the midterm and the final will be quantitative in nature, this evaluation

exercise should help students prepare well for the exams in this course. Students are expected to work in a self-chosen group of a maximum of TWO students each. However, a submission from an individual student will also be accepted without any deductions of marks. The assigned work and the rest of the submission details will be posted on Avenue.

Midterm and Final Exam

The nature and format of the questions on the midterm and final will be like the ones on slides, examples discussed in class, and the ones found in assigned evaluation activities. The answer key to selected chapter-end questions will be posted on the Avenue once a topic is discussed in the class. This answer key should provide enough sample questions for practice and should provide enough details to work on similar chapter-end questions. The info on the readings for the midterm and the final is provided at the end of this outline and will also be posted on avenue before each of the exams. Final will be semi-cumulative and only selected topics will make it to the readings list for the final. All other details will be posted on avenue well before each of the exams. Students will be allowed to bring a single-page (8.5" x 11.5"), formula sheet during the midterm and final exams. However, the use of a PC and any other digital devices will not be allowed in any of the exams. The use of a financial calculator is highly recommended.

PLEASE NOTE:

1. Students who do not write the midterm, with approval, will have marks moved to the final and will write a cumulative final of 70%.
2. If a student misses a lecture for any reason, it is the student's responsibility to obtain class lecture notes and other relevant material from other classmates.
3. Marks for all pre-final exam evaluation activities will be posted on Avenue.
4. Your letter grade in this course will come through official channels. Hence, marks for the final exam will not be posted on Avenue.
5. You are encouraged to contact the course instructor or course TA for any questions on the course material and outlines, evaluation scheme, and Exams.

Grade Conversion

At the end of the course, your overall percentage grade will be converted to your letter grade in accordance with the following conversion scheme:

LETTER GRADE	PERCENT	LETTER GRADE	PERCENT
A+	90 - 100	C+	67 - 69
A	85 - 89	C	63 - 66
A-	80 - 84	C-	60 - 62
B+	77 - 79	D+	57 - 59
B	73 - 76	D	53 - 56
B-	70 - 72	D-	50 - 52
		F	00 - 49

COMMUNICATION AND FEEDBACK

Students who wish to correspond with instructors or TAs directly via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of

information as well as confirms the identity of the student. Emails regarding course issues should NOT be sent to the Area Administrative Assistants. All students must receive feedback regarding their progress prior to the final date by which a student may cancel the course without failure by default.

- For Level 1 and Level 2 courses, this feedback must equal a minimum of 20% of the final grade.
- For Level 3 courses and above, this feedback must equal a minimum of 10% of the final grade.

Instructors may solicit feedback via an informal course review with students by Week #4 to allow time for modifications in curriculum delivery.

ACADEMIC DISHONESTY

You are expected to exhibit honesty and use ethical behavior in all aspects of the learning process. The academic credentials you earn are rooted in principles of honesty and academic integrity. It is your responsibility to understand what constitutes academic dishonesty.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behavior can result in serious consequences, e.g. a grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university.

For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/>

The following illustrates only three forms of academic dishonesty:

1. plagiarism, e.g. the submission of work that is not one’s own or for which another credit has been obtained.
2. improper collaboration in group work.
3. copying or using unauthorized aids in tests and examinations.
- 4.

REQUESTING RELIEF FOR MISSED ACADEMIC WORK

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar “Requests for Relief for Missed Academic Term Work” and the link below;

<http://ug.degroote.mcmaster.ca/forms-and-resources/missed-course-work-policy/>

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University’s [Academic Accommodation of Students with Disabilities](#) policy.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office *normally within 10 working days* of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright-protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical, and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution or by a student for the purpose of personal study. Students should be aware that their voices and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

COURSES WITH AN ONLINE ELEMENT

Some courses may use online elements (e.g. e-mail, Avenue to Learn (A2L), LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course.

The available information is dependent on the technology used. Continuation in a course that uses online elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [*Code of Student Rights & Responsibilities*](#) (the “Code”). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**. It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in university activities. Student disruptions or behaviors that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx, or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students’ access to these platforms.

COURSE SCHEDULE AND DELIVERY UNDER EXTREME CIRCUMSTANCES

The lecture schedule for 4FJ3 winter 2020 term is based upon the current university and public health guidelines and may be subject to changes during the term. Any changes to the schedule or course delivery will be communicated in the course announcements section on Avenue to Learn. Please check the announcements prior to attending class.

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labor disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L, and/or McMaster email.

POTENTIAL MODIFICATIONS TO THE COURSE

The instructor reserves the right to modify elements of the course during the term. There may be changes to the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with an explanation and the opportunity to comment on changes. *It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.*

ACKNOWLEDGMENT OF THE COURSE POLICIES

Your enrolment in Commerce 4FJ3 will be considered to be an implicit acknowledgment of the course policies outlined above, or of any other, that may be announced during the lecture and/or on A2L. It is your responsibility to read this course outline, familiarize yourself with the course policies, and to act accordingly. A lack of awareness of the course policies cannot be invoked at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand.

Commerce 4FJ3 Course Contents Winter 2023

Below is a **tentative** list of course topics. As we progress in the course, contents of some of the topics listed below may be **modified**, if required.

Topics	Readings
Introduction to the Valuation of Fixed-Income Securities	
Syllabus Review Overview of Fixed Income Securities Introduction to Bond Prices, Measuring Bond Yields and Bond Returns	Lecture notes, Chapters 1, 2, and 3
Bond Price Volatility and Term Structure of Interest Rate	
Price-Yield Relationship and Bond Price Volatility Base and Term Structure of Interest Rate	Chapters 4 and 6
<i>Group Assignment # 1 due on Feb. 27</i> <i>Midterm Recess Feb. 20 – Feb. 26 NO Class</i>	
<i>Midterm Exam Marh 1st</i>	
Valuation of Fixed Income Securities and Interest Rate Derivatives	
Mortgage-backed Securities	Chapters 11 and 12
Convertible Bonds, and Bonds with Embedded Options	Chapters 19 and 21
Interest-Rate Futures Contracts	Chapter 29
Interest-Rate Options	Chapter 30
Interest-rate Swaps, Forward Rate Agreements, Caps, and Floors	Chapter 31
<i>Group Assignment # 2 due on April 10</i>	
<i>Final Exam April 14 - 29 – Scheduled by Registrar Office</i>	