

**Commerce 4FE3**  
**Options and Futures**  
**Fall 2020 Course Outline**

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

**COURSE OBJECTIVE**

The goal of this course is to provide you with a good fundamental understanding of derivative securities. These securities include forward contracts, futures contracts, options, swaps and structured products. Emphases will be placed on three aspects of derivatives – the nature of their payoffs, how they are priced and how they can be used for hedging and speculative purposes.

**INSTRUCTOR AND CONTACT INFORMATION**

Instructor: Narat Charupat  
 Office: DSB 314  
 Tel: (905) 525-9140 Ext. 23987  
 E-mail: charupat@mcmaster.ca  
 Office Hours: To be advised  
 Class Location: On-line  
 Class Time: Friday 08:30 – 11:20

Course Website: Please visit Avenue to Learn at <http://avenue.mcmaster.ca>

**COURSE ELEMENTS**

Credit Value:	3	Leadership:	No	IT skills:	No	Global view:	Yes
Avenue:	Yes	Ethics:	No	Numeracy:	Yes	Written skills:	Yes
Participation:	No	Innovation:	Yes	Group work:	Yes	Oral skills:	No
Evidence-based	Yes	Experiential	No	Final Exam	Yes	Guest Speaker	No

## **COURSE DESCRIPTION**

Derivative securities are now a very large topic which is growing very quickly. Therefore, this course is intensive and requires that you be interested and willing enough to commit yourself to it. The course will progress in a very linear fashion. The understanding of one class is dependent on the understanding of previous classes. As a result, it is essential that you keep up with the materials covered. You are strongly encouraged to attend every class and spend a sufficient amount of time on your own to review the materials before attending the next class.

The content of this course will include both theoretical and application components. It is my strong belief that theories provide us with a framework to use in our thinking process. Therefore, I expect to spend a good portion of this course on theories. However, applications of the theories will not be neglected and will be discussed alongside the theoretical discussion.

## **LEARNING OUTCOMES**

Upon completion of this course, students should:

- have a good understanding of derivative securities;
- be able to identify the risk-return patterns of these securities;
- be able to decide which securities to use for hedging and/or speculative purposes;
- be able to de-construct and re-construct complex securities using basic standard and derivative securities; and

most importantly, be able to think logically and systematically.

## **COURSE DELIVERY**

This course will be delivered through live sessions. Each live session will be recorded and its video will subsequently be posted on-line.

## **TEXTBOOK**

Options, Futures and Other Derivatives by John Hull, 10<sup>th</sup> edition (REQUIRED)

## EVALUATION

You will be evaluated based on four components according to the following weights:

### ***Components and Weights***

Assignment #1 (see Note 1)	10%
Assignment #2 (see Note 1)	10%
Midterm Exam (see Note 2)	40%
Final Exam	40%
<b>Total</b>	<b>100%</b>

Notes:

- 1) Both assignments can be done individually or with one partner. The first assignment will be given out on Friday October 9 and due back on Friday October 23. The second assignment will be given out on Friday November 27 and due back on Friday December 4.
- 2) The midterm exam is scheduled to take place on Friday October 30 from 08:30 to 11:20. Both the midterm exam and the final exam will be designed to reward your understanding *and* thinking.
- 3) Missed assignments/exams will receive a grade of zero unless the student has submitted and been approved for a Notification of Absence or MSAF.

### ***Grade Conversion***

I do not use a fixed percentage grading scale. That is, there is no fixed schedule that I use to map marks to letter grades. This means that raw marks are not in themselves very meaningful. Rather, your final grade will depend on how well you do relative to other people in your class.

### ***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 for at least 10% of the final grade prior to the final date by which a student may cancel the course without failure by default.

## **ACADEMIC DISHONESTY**

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

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 behaviour can result in serious consequences, e.g. the 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.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at;

[www.mcmaster.ca/academicintegrity](http://www.mcmaster.ca/academicintegrity)

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 other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations

## **ONLINE COURSE COMPONENT**

In this course, we will be using various on-line tools such as Zoom/MS Teams, Avenue to Learn and e-mail communications. Students should be aware that when they access these tools, 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 this course will be deemed consent to this disclosure.

If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

## **ONLINE PROCTORING**

In this course, we 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.

## 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 behaviours 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.

## 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/>

## STUDENT ACCESSIBILITY SERVICES

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or [sas@mcmaster.ca](mailto: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, INDEGENOUS 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.

## 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 voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

## EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour 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 and university reserve the right to modify elements of the course during the term. The university may change 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 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.

## ACKNOWLEDGEMENT OF COURSE POLICIES

Your enrolment in Commerce 4FE3 will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on Avenue to Learn. **It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.**

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.

<b>COURSE SCHEDULE</b>
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<b>CLASS</b>	<b>DATE</b>	<b>TOPIC</b>
1	Sept 11	Basic finance concepts. Introduction to futures, options and other derivative securities (Ch. 1)
2-3	Sept 18, 25	Mechanics of futures markets (Ch. 2). Pricing and valuing forward and futures contracts (Ch. 5)
4	<i>Oct 2</i>	Risk management – Hedging using forward and futures contracts (Ch. 3)
5	Oct 9	Interest rate forward and futures contracts (Ch. 4, 6)
6	Oct 23	Mechanics of options markets (Ch. 10). Basic properties of stock option prices (Ch. 11)
	Oct 30	Midterm Exam
7-8	Nov 6, 13	Pricing of stock options – Binomial trees (Ch. 13, 21)
9	Nov 20	Behavior of stock prices. Pricing of stock options – Black-Scholes formula (Ch. 14, 15)
10	Nov 27	Volatility estimation, Greek letters (Ch. 19, 20)
11	Dec 4	Swaps (Ch. 7)

Note: The above schedule is subject to change.