

**Finance 703
Derivatives
Summer 2021 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 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: Monday 19:00 – 22:00 (Section 01); Thursday 08:30 – 11:30 (Section 02)

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, 10th edition

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%
Total	100%

Notes:

- 1) Both assignments can be done individually or with one partner. The first assignment will be given out on Thursday May 27 and due back on Thursday June 10. The second assignment will be given out on Thursday July 8 and due back on Thursday July 22.
- 2) The midterm exam is scheduled to take place on Wednesday June 23 from 08:30 to 11:30. Both the midterm exam and the final exam will be designed to reward your understanding *and* thinking.

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	POINTS
A+	90-100	12
A	85-89	11
A-	80-84	10
B+	75-79	9
B	70-74	8
B-	60-69	7
F	00-59	0

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.

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

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 Missed Term Work regulations that our outlined on the Master of Finance website;

<https://mfin.degroote.mcmaster.ca/current-students/misled-term-work/>

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 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 FINANCE 703 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.

COURSE SCHEDULE

CLASS	DATE	TOPIC
1	Week of May 3	Introduction to futures, options and other derivative securities (Ch. 1)
2 – 3	Weeks of May 10 and May 17	Mechanics of futures markets (Ch. 2). Pricing and valuing forward and futures contracts (Ch. 5)
4	Week of May 24 (see Note 1)	Risk management – Hedging using forward and futures contracts (Ch. 3)
5	Week of May 31	Interest rate forward and futures contracts (Ch. 4, 6)
6	Week of June 7	Mechanics of options markets (Ch. 10). Basic properties of stock option prices (Ch. 11)
7	Week of June 14	Pricing of stock options – Binomial trees (Part 1, Ch. 13, 21)
	Week of June 21	Midterm Exam – No class
8	Week of June 28 (see Note 2)	Pricing of stock options – Binomial trees (Part 2, Ch. 13, 21)
9	Week of July 5	Behavior of stock prices. Pricing of stock options – Black-Scholes formula (Ch. 14, 15)
10	Week of July 12	Volatility estimation, Greek letters (Ch. 19, 20)
11	Week of July 19	Swaps (Ch. 7)
12	Week of July 26	Miscellaneous

Notes: 1) Monday May 24 is a holiday. As a result, there will be no class on that day. However, students in the Monday section are asked to watch a video that will be posted later.

2) Thursday July 1 is a holiday. As a result, there will be no class on that day. However, students in the Thursday section are asked to watch a video that will be posted later.