School of Administrative Studies
Faculty of Liberal Arts and Professional Studies

AP/ADMS 4503 Derivative Securities

Summer 2021 (S1) – Course Outline (last update: April 22)

PLEASE READ THE OUTLINE CAREFULLY

Note: *Tentative course outline revised April 13, 2021. Further revisions may be posted before the first day of summer classes. ADMS 4503 is in York's 6-week S1 term which goes from Monday May 10 to Monday June 21 (Monday May 24 is a holiday).*

Instructor: **Nabil Tahani, Ph.D.**
Moodle: *Access to the website is granted automatically to enrolled students.*
Email: ntahani@yorku.ca (*Note: You must use your my.yorku.ca email account. Include ADMS4503 in the subject line and include your* **full name** *and* **student number** *in the body of the message.*)

Class hours and office hours:
Online/remote learning formats are used for all summer 2021 York courses. There will be no in-person interactions or activities on campus. We will have **Zoom interactive classes (synchronous)** during the following times and these **sessions will be recorded:**

- **Class:** Mondays and Thursdays 11:30am–2:30pm

- **Office hours:** You can make an appointment for an individual Zoom meeting.

Note that although the sessions will be recorded and posted on Moodle, **you will receive a better learning experience if you attend the interactive sessions**.

Zoom and technical requirements for taking the course:
You **must register for Zoom** before the start of the course. York University has a license for Zoom for faculty members and students. We will provide you with the link to be able join the sessions. You are not required to join through video, but you will need the audio. Note that in order to minimise any background noise, all participants will be muted when joining a Zoom lecture session, and unmuted if they want to speak or ask questions. Here are some useful links for student computing information, resources and help:

Student Guide to Moodle
Zoom@YorkU Best Practices
Zoom@YorkU User Reference Guide
Computing for Students Website
Student Guide to eLearning at York University

Course Description

The financial world has witnessed continual innovations since the mid-seventies with new securities called derivatives. These securities, among which we find futures and forward contracts and options, are traded on basic underlying assets such as stocks, bonds, commodities, interest rates and currencies. Their lower costs as well as the innovative profits they offer, make them very attractive and useful in speculative and hedging strategies. This course will introduce these derivatives and students will have a good knowledge of how these contracts work, how they are used, and how they are priced. Individuals who are skilled at analysing derivatives are in high demand in financial centres throughout the world.

Prerequisites

AP/ADMS 3530 (Finance) and AP/**ADMS 3531** (Personal Investment Management) are prerequisites.

Student Evaluation

Group Assignments (2)	30%
Quizzes (5)	10% (2% each, excluding the Math Review Quiz)
Midterm Exam	35%
Final Exam	25%

Required Textbook: *Options, Futures and Other Derivatives*, 11th or 10th editions (or any edition after 5th), John C. Hull, Pearson Prentice Hall. The *Student Solutions Manual*, 10th Edition (or any edition after 5th), which contains solutions to all end-of-chapter questions and problems is **recommended**.

Method of Instruction

A combination of lectures, discussions and problem solving. PowerPoint slides will be available on the course Moodle website. Throughout the course, your active participation is encouraged. You are required to think, to analyse, to evaluate, and to apply problem-solving techniques. You are also expected to complete assigned readings and/or problem-solving materials for each class. *We may change some aspects of this course as we work through it in these extraordinary circumstances. In order to make an online course work, you must keep working every week rather than leaving it all to the end of the course, and we have organised the course so that you will have some work for grading almost every week.*

Calculator

You need a handheld non-programmable calculator that includes basic math functions (e.g. logarithm, exponential, square root and power functions). It also is helpful if the calculator includes basic financial functions (e.g. PV, FV, PMT). If you will pursue the CFA designation in the future, note that only two **financial calculators** are currently allowed for the CFA exams: the Texas Instruments BAII Plus (and BAII Plus Pro), and the Hewlett-Packard 12C (HP-12C).

Assignments

There are two **group assignments**. Groups of **3-4** students must **be formed by the 2nd class** and shouldn't be changed. Assignments are due on the assigned date (more info on submission TBA later). Extensions for submitting an assignment after the due date with penalty may be <u>granted on a case-by-case basis</u>. Approval must be obtained from the course director prior to the due date of the assignment. Late assignments, if approved, will be penalized by **5% per day** (*e.g. if the assignment is marked out of 30 marks and is 2 days late, then 3 marks will be deducted from the total mark*). No assignments will be accepted after the solution has been made available.

Quizzes, Midterm and Final Exams

The quizzes, midterm and final exams will all be **conducted online** (more details later).

The **quizzes will open and close at specific times** (schedule TBA), but once started you **will have <u>one hour</u> to complete the quiz in <u>one attempt</u>**.

In order to avoid any conflict with other exams, the **midterm exam is scheduled on Monday June 7, 11:30am-2:30pm**; and **the final exam will be scheduled by the RO between June 23-25.**

If you **miss the midterm exam** for a legitimate reason, you will write a **cumulative final exam in coverage and in weight**. There is **NO make-up midterm exam**. Students with a **conflict due to religious reasons** will be accommodated. Please inform the course director in writing by the **third class**. All students who need a passing grade for the course must take the final exam.

Academic Honesty and Integrity
In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's Academic Integrity module at the beginning of the course. Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities and can be punishable according to the Senate Policy on Academic Honesty.

Finance Area policy on DSA (Deferred Standing Agreement)
It is the policy of the Admin Studies finance area that instructors **will NOT sign a DSA form if you miss both the midterm and final exams**. Students in this situation will need to petition for deferred exam, late withdrawal, or a remedy appropriate to their circumstances.

Relevant University/LA&PS/School Regulations
The regulations on many aspects of coursework that apply to you are on:
http://sas.laps.yorku.ca/students/

You are responsible for understanding and following these regulations.

Forms and Policies
Attending Physician's Statement form, for missed midterm or missed final exam:
http://www.registrar.yorku.ca/pdf/attend_physician_statement.pdf

DSA Form for missed final exam:
http://www.registrar.yorku.ca/pdf/deferred_standing_agreement.pdf

DSA Process and Petitions for ADMS classes: http://www.yorku.ca/laps/sas/links.html

Tentative Course Schedule
The topic order will be as stated below. However, if we cannot finish the material listed in a lecture, the remainder will be carried forward to the following one. Dates and topics are *tentative and subject to change with notice*. **All times are in the Eastern Time Zone**.

Note that the dates for the assignments and quizzes will be posted on the course website.

Lecture	Date	Topics and Chapters Readings
1	May 10	Brief Introduction, Chapter 1 Mechanics of Options Markets, Chapter 10 (self-study) Review of Basic Financial and Mathematical Concepts (self-study)
2	May 13	Properties of Stock Options, Chapter 11 Trading Strategies involving Options, Chapter 12
3	May 17	Trading Strategies involving Options, Chapter 12 (cont'd)
4	May 20	Introduction to Binomial Trees, Chapters 13 and 21
5	May 27	Introduction to Binomial Trees, Chapters 13 and 21 (cont'd)
6	May 31	The Black-Scholes-Merton Model: Options on Stocks and Other Assets, Chapters 15, 17 and 18
7	Jun 3	Hedging, Volatility Smiles and Monte-Carlo Simulation, Chapters 19 and 20
8	**Monday Jun 7**	**Midterm Exam: Lectures covered are 1-7. Time: 11:30am-2:30pm**
9	Jun 10	Mechanics of Futures and Forward Markets, Chapter 2 Determination of Futures and Forward Prices, Chapter 5
10	Jun 14	Determination of Futures and Forward Prices, Chapter 5 (cont'd)
11	Jun 17	Determination of Futures and Forward Prices, Chapter 5 (cont'd) Hedging Strategies Using Futures, Chapter 3
12	Jun 21	Hedging Strategies Using Futures, Chapter 3 (cont'd)
13	**TBA**	**Final exam: Lectures covered are 9-12. Date and Time: TBA**