

School of Administrative Studies
Faculty of Liberal Arts and Professional Studies

AP/ADMS 4503 Derivative Securities

Fall 2023 (S1) – **Course Outline** (last update: September 1, 2023)

PLEASE READ THE OUTLINE CAREFULLY!

Note: Tentative course outline created September 1, 2023. Further revisions may be posted before the first day of classes. ADMS 4503 is in York's fall term from Wednesday, September 6 to Wednesday November 29 (Note: no class on October 11 – fall reading week).

Instructor: **Hamid Arian**

eClass: Access to the website is granted automatically to enrolled students.

Email: harian@yorku.ca (Note: You **must use your my.yorku.ca email** account. Include ADMS4503 in the subject line and your full name and student number in the body of the message.)

Class hours and office hours:

Our class hours are **Wednesdays, 16:00 – 19:00 p.m.**, in **ACW 205**. Office hours:

1. may occur after class,
2. on Tuesdays 10:00 – 12:00 pm,
3. over Zoom by appointment.

Important: Should there be any changes to health restrictions, and we are asked to switch to online, I will provide details for Zoom meetings.

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, forward contracts, and options, are traded on primary underlying assets such as stocks, bonds, commodities, interest rates, and currencies. Their lower costs and the innovative profits they offer make them very attractive and valuable in speculative and hedging strategies. This course will introduce these derivatives, and students will know 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 globe.

Prerequisites

AP/ADMS 3530 (Finance) and AP/ADMS 3531 (Personal Investment Management) must be **completed with a passing grade** before taking the course.

Student Evaluation

Group Assignments (2)	30%
Quizzes (5)	10% (online, 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

This course is designed to be a flipped classroom. We will review the week's main topics and work through the practice problems. To fully benefit from this course, you must complete the assigned readings and solve the practice problems for each class. The course is organized so that you have some graded work 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 is also helpful if the calculator includes essential 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 a penalty may be [granted on a case-by-case basis](#). Approval must be obtained from the course director before the assignment's due date. 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).

Quizzes

The **quizzes will all be conducted online**. They will open and close at specific times (see eClass for schedule). More details will be provided in eClass.

Midterm and Final Exams

The **midterm and final exams are closed book and will take place in person**. A formula sheet will be posted on the course website and provided during the exam. To avoid any conflict with other exams, the **midterm exam is scheduled on Wednesday November 1, 16:00 - 19:00 p.m.** If you miss the midterm exam for a legitimate reason, you will write a cumulative final exam in coverage and 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**.

The final exam will be scheduled by the RO between December 7-21. 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, representing 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 School of Administrative Studies Finance Area that instructors **will not automatically approve a DSA form if you miss both the midterm and final exams. If the DSA is denied**, students in this situation must petition for a 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:

<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*.

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

Lecture	Date	Topics and Chapters Readings
1	September 6	Brief Introduction, Chapter 1 Mechanics of Options Markets, Chapter 10 (self-study) Review of Basic Financial and Mathematical Concepts (self-study)
2	September 13	Properties of Stock Options, Chapter 11 Trading Strategies involving Options, Chapter 12
3	September 20	Trading Strategies involving Options, Chapter 12 (cont'd) Assignment 1 is posted
4	September 27	Introduction to Binomial Trees, Chapters 13 and 21
5	October 4	Introduction to Binomial Trees, Chapters 13 and 21 (cont'd)
6	October 18	The Black-Scholes-Merton Model: Options on Stocks and Other Assets, Chapters 15, 17 and 18 Assignment 1 is due
7	October 25	Hedging, Volatility Smiles and Monte-Carlo Simulation, Chapters 19 and 20
8	November 1	Midterm Exam: Lectures covered are 1-7. Time: 16:00-19:00 pm Assignment 2 is posted
9	November 8	Mechanics of Futures and Forward Markets, Chapter 2 Determination of Futures and Forward Prices, Chapter 5
10	November 15	Determination of Futures and Forward Prices, Chapter 5 (cont'd)
11	November 22	Determination of Futures and Forward Prices, Chapter 5 (cont'd) Hedging Strategies Using Futures, Chapter 3
12	November 29	Hedging Strategies Using Futures, Chapter 3 (cont'd) Assignment 2 is due
13	TBA	Final exam: Lectures covered are 9-12. Date and Time: December 7-21