

School of Administrative Studies
Faculty of Liberal Arts and Professional Studies

AP/ADMS 4503 Derivative Securities

Winter 2025 – Course Outline

PLEASE READ THE OUTLINE CAREFULLY

Instructor: Hamid Arian, PhD, CFA, FRM

Moodle: 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

- **Section N: Monday, 11:30 a.m. – 2:30 p.m., in FC 108.**
- **Section M: Monday, 16:00 p.m. – 19:00 p.m., in FC 108.**

Office hours:

1. may occur after class,
2. on Mondays 3:00 pm – 4 pm and Tuesdays 10:00 – 12:00 pm,
3. Office location: Atkinson Building, office 426
4. alternative times/dates by appointment.

Important: If health restrictions change and we are asked to switch to online meetings, I will provide details for Zoom meetings.

Course Description

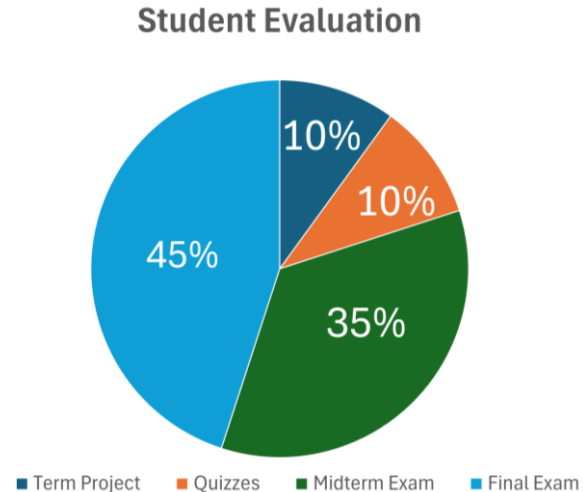
The financial world has witnessed continual innovations since the mid-seventies with new securities called derivatives. These securities, among which we find futures forward contracts and options, are traded on basic underlying assets such as stocks, bonds, commodities, interest rates, and currencies. Their lower costs and the innovative profits they offer make them very attractive and useful in speculative and hedging strategies. This course will introduce these derivatives, and students will learn 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 centers throughout the world.

Prerequisites

ADMS3530 (Finance) and ADMS3531 (Personal Investment Management) are prerequisites.

Student Evaluation

Term Project	10%
Quizzes (5)	10% (2% each)
Midterm Exam	35%
Final Exam	45%



Required Textbook: [Options, Futures and Other Derivatives](#), 10th Edition (or any edition after 5th), John C. Hull, Pearson Prentice Hall, 2017, ISBN: 0-13-447208-X. The [Student Solutions Manual](#), 10th Edition (or any edition after 5th), ISBN: 0-13-462999-X, which contains solutions to all end-of-chapter questions and problems (*but not the assignment questions*) 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 analyze, to evaluate, and to apply problem-solving techniques. You are also expected to complete assigned readings and/or problem-solving materials for each class.

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).

Term Projects

There is one **term project**. Groups of **4-7** students must **be formed by the 3rd class** and shouldn't be changed. Each group will do a rehearsal presentation on week 11 and their final presentation on week 12. The details of the projects are posted on eclass.

Quizzes

The **quizzes will all be conducted in person**. We will have two before the midterm and three before the final. Details of the quizzes will be announced on eclass.

Midterm and Final Exams

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**. All students who need a passing grade for the course must take the final exam.

The final exam will be scheduled by the RO. 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 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. Please check the announcement section of your course on a regular basis.

Course Timeline

Lecture	Date	Topics and Chapters Readings
1	January 6	Introduction to Derivative Securities
2	January 13	Option Trading Strategies Term project is posted Groups will be announced
3	January 20	Futures & Forward Prices
4	January 27	Value of Futures contracts Quiz 1
5	February 3	Hedging with Futures Quiz 2
6	February 10	Midterm Exam: Lectures covered are 1-5 Time: (Section M) 11:30 am -7:00 pm Time: (Section N) 4:00 pm -7:00 pm Location: FT 108
February 15-21: Reading Week		
7	February 24	Option Price Properties
8	March 3	Binomial Model of Option
9	March 10	Binomial Model of Option (continued) 1st Presentation Rehearsal: Initial Feedback
10	March 17	The Black-Scholes-Merton Model: Options on Stocks and Other Assets Quiz 3
11	March 24	The Black-Scholes-Merton Model: Options on Stocks and Other Assets Quiz 4 2nd Presentation Rehearsal: Final Feedback
12	March 31	Hedging, Volatility Smiles, and Monte-Carlo Simulation Quiz 5 Term Project Presentations
Final	Wed, Apr 10	Final exam: Lectures covered are from 6-11. Time: TBA Location: TBA

Appendix A: Quiz Timeline

Quiz	Date	Coverage	Percentage
1	Week 4: Jan 27	Options Trading Strategies	2%
2	Week 5: Feb 3	Mechanics of Futures & Forwards, Determination of Futures and Forwards Prices	2%
3	Week 10: Mar 17	Properties of Options	2%
4	Week 11: Mar 24	Binomial Trees	2%
5	Week 12: Mar 31	Black-Scholes Model	2%

Appendix B: Project Timeline

	Date	Percentage
Rehearsal	Weeks 9 and 11	10%
Presentation	Week 12	

* Your presentation slides should be ready by this date

Appendix C: Feedback and Review Sessions

	Date
Q&A Session for Midterm*	TBA
Q&A Session for Final**	TBA

* Midterm Exam is scheduled for TBA - Location: TBA.

** Final Exam is scheduled for TBA – Location: TBA.

Appendix D: Midterm Prep Timeline

Topic	Practice Posted	Solution Posted	Office Hours
Options Trading Strategies	Week 2	Week 3	Tuesdays from 10 am to 12 pm
Mechanics of Futures & Forwards	Week 3	Week 4	Tuesdays from 10 am to 12 pm
Determination of Futures and Forwards Prices	Week 4	Week 5	Tuesdays from 10 am to 12 pm
Hedging using Futures	Week 4	Week 5	Tuesdays from 10 am to 12 pm

Appendix E: Final Prep Timeline

Topic	Practice Posted	Solution Posted	Office Hours
5. Properties of Options	Week 8	Week 9	Tuesdays from 10 am to 12 pm
6. Binomial Trees	Week 8	Week 10	Tuesdays from 10 am to 12 pm
7. Black-Scholes Model	Week 9	Week 11	Tuesdays from 10 am to 12 pm
8. Hedging, Volatility & Monte Carlo	Week 11	Week 12	Tuesdays from 10 am to 12 pm

*Online office hours are held in Zoom: <https://yorku.zoom.us/my/harian>