

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Prof. Marcos Escobar-Anel	marcos.escobar@uwo.ca	WSC282	84106	W 12-2pm (in-person)
TA (TBA)				

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

3. Course Syllabus, Schedule, Delivery Mode

Course Objectives and learning outcomes:

After completing this course, students will be able to:

understand the properties of financial securities such as calls and puts.
understand uses of these securities in hedging, trading and financing.
assess the risk/reward of trading strategies.
identify arbitrage opportunities and construct trading strategies to exploit them.
replicate the payoff of various securities.
construct discrete-time stochastic models for securities prices.
understand properties of discrete-time stochastic processes such as conditional expectation and martingales.
price securities by risk-neutral valuation and by no-arbitrage.
dynamically hedge securities using discrete-time models;
understand the difference between complete and incomplete market models.
price and hedge equity options using Black-Scholes in a discrete-time framework.
price exotic options involving various assets and/or path dependency.

Lecture Hours: Mondays 8:30-11:30am (WSC248), in-person.

See lecture notes for a break-down of course topics in a “table of contents” format with an approximate timeline.

Classes begin: September 8, 2022; January 9, 2023

Fall Reading Week: October 31 – November 6, 2022; February 18 – 26, 2023

Classes end: December 8, 2022; April 10, 2023

Exam period: December 10 – 22, 2022; April 13 – 30, 2023

Contingency plan for an in-person class pivoting to 100% online learning

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, affected course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

4. Course Materials

Textbook(s):

Cvitanic and Zapatero. Introduction to the Economics and Mathematics of Financial Markets. MIT Press, Cambridge Massachusetts.

Campolieti and Makarov. Financial Mathematics. A comprehensive treatment.

John Hull. Options, Futures, and other Derivatives, 8th or 9th Edition. Pearson.

Note that these textbooks will only be used as a guide. The instructor will use his own set of course notes during lectures.

Students are responsible for checking the course OWL site (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

All course material will be posted to OWL: <http://owl.uwo.ca>.

If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk.

writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

Accommodations

and

religious

holidays

(see the University's

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats.