



**Carleton**  
University

**Sprett**  
School of Business

**BUSI 3512 A, B**  
**FALL 2022**  
**DERIVATIVES**

**Instructor:** Dr. Yuriy Zabolotnyuk, CFA, FRM  
**Class time:** Section A: Friday 8:35am-11:25am in UC182  
Section B: Thursday 11:35am-2:25pm in NI1020

**Office Hours:** TBA (Nicol 7022)  
**Email:** [yuriy.zabolotnyuk@carleton.ca](mailto:yuriy.zabolotnyuk@carleton.ca)

**Email response policy:** I will try my best to respond to emails received during business hours (9am-5pm) during the same business day. Emails received after hours will be responded to during the next business day.

**TA:** TBA  
**Office Hours:** TBA  
**Email:** TBA

**Modality:** hybrid. Each 3-hour weekly class will consist of two parts: (i) a 1-hour asynchronous (pre-recorded) lecture and (ii) a 2-hour synchronous in-person session.

**Pre-requisites & precluded Courses:**

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BUSI 2505 with a grade of C+ or higher, STAT 2606 and ECON 2009 with a grade of C- or higher in each. BUSI3512 precludes additional credit for BUSI 4512 (no longer offered).

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**Course Calendar description from the [2022/2023 University calendar](#):**

Derivative instruments and their use for speculation and hedging. Analysis of different markets where instruments trade, and their characteristics. Pricing models highlighted to determine how individuals and corporations can better manage risk; exotics and newer innovations.

**Course Description:**

This is an introductory course on derivative securities. The course will focus on options, forward and futures contracts, and swaps. We will look at how derivatives can be used for hedging risk. We will study the organization of derivatives markets, relevant trading strategies and the pricing models applicable to these securities.

**Learning Outcomes:**

1. Students will be able to describe main features and characteristics of forward, futures, options, and swap contracts and markets.
2. Students will be able to value forwards, futures, options, and swap contracts.
3. Students will be able to demonstrate how derivative contracts can be used for hedging, speculation, and arbitrage.

**Required Textbooks and Materials**

John Hull, *Options, Futures, and Other Derivatives*, 11<sup>th</sup> ed., Pearson, 2022.

**Course Requirements & Methods of Evaluation (including due dates):**

Quizzes (best 4 out of 5 @10% each)	40%
Midterm Exam	20-25%
Final Exam	35-40%
<b>Total</b>	<b>100%</b>

**Quizzes:** Quizzes are designed to focus on material that was just covered. They will be 20-30 minutes in length and will consist of a number of multiple-choice questions.

**Midterm and final exams:** The exams will consist of multiple-choice questions and longer problems. The date and location of the final exam will be announced through the University's normal procedures for such matters. Be sure that you are available for the final exam. *Allowance will not be made for conflicting travel plans.* The final exam is for evaluation purposes, not instruction. It will not be returned to students.

Every effort will be made to mark fairly and accurately. Nonetheless, in some cases, students may call into question the grades awarded to assignments or tests. In such cases, please write a brief note describing the difficulty with the awarded grade and provide the note, together with the graded work, to the instructor not later than seven calendar days following the return of the graded work. Please be sure to include your name and student number on the note to enable the instructor to identify it properly. Note that the resulting remarking may lead to a lower grade.

**Course Schedule (preliminary and subject to changes):**

Date	Topic	Chapter in Hull
Sept.8/9	Introduction, Mechanics of Options Markets	1, 10
Sept.15/16	Properties of Stock Options	11
Sept.22/23	Trading Strategies Involving Options <b>Quiz 1</b>	12
Sept.29/30	Binomial Trees <b>Quiz 2</b>	13
Oct.6/7	The Black-Scholes-Merton Model	15
Oct.13/14	The Greek Letters <b>Quiz 3</b>	19
Oct.20/21	<b>MIDTERM EXAM (in person, written on paper)</b>	
Oct.27/28	<b>Fall break. No classes.</b>	
Nov.3/4	Mechanics of Futures and Forward Markets	2
Nov.10/11	Hedging Strategies Using Futures	3

Nov.17/18	Determination of Forward and Futures Prices <b>Quiz 4</b>	5
Nov.24/25	Swaps	7
Dec.1/2	Credit Derivatives <b>Quiz 5</b>	25

**Contribution to Learning Goals of the Program (BCom, BIB):**

Program Learning Goal	Competencies Not Covered	Competencies Introduced (only)	Competencies Taught But Not Assessed	Competencies Taught and Assessed
<b>CHECK (X) ONE PER ROW</b>				
<b>BC1 Knowledge</b> <i>Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.</i>	<b>X</b>			
<b>BC2 Collaboration</b> <i>Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and interest of all members.</i>		<b>X</b>		
<b>BC3 Critical Thinking</b> <i>Graduates will be discerning critical thinkers, able to discuss different viewpoints, challenge biases and assumptions, and draw conclusions based on analysis and evaluation.</i>		<b>X</b>		
<b>BC4 Communication</b> <i>Graduates will be effective and persuasive in their communications.</i>		<b>X</b>		
<b>B15 Global Awareness (BIB ONLY)</b> <i>Graduates will be globally-minded.</i>		<b>X</b>		

## **ADDITIONAL INFORMATION**

### **Course Sharing Websites**

Materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

### **Required calculator in BUSI course examinations**

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

### **Group work**

The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follower-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

### **Grading**

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

### **Academic Regulations**

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

### **Requests for Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

### **Pregnancy Accommodation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known

to exist. For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Religious obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Academic Accommodations for Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](https://carleton.ca/pmc)

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](https://carleton.ca/sexual-violence-support)

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: [students.carleton.ca/course-outline](https://students.carleton.ca/course-outline)

### **Academic Integrity**

Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated.

Process: If an alleged violation occurs, all relevant documentation will be forwarded to the Dean. If the allegation proves true, the penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others.

**For a first offence, at a minimum, the penalty assigned will normally be a zero on the submitted work and at least a minimum full grade reduction of the final course grade. For a second offence, at a minimum, the penalty assigned will normally lead to a suspension from studies.**

Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>.

### **Sprott Student Services**

The Sprott Undergraduate Student Services Office offers program advising and overall student success support. Our team is available to discuss your academic goals and your program progression plans. We can also work with you to develop strategies for success, including study skills for Business. If you experience any difficulty this term or if you would like to access support, please contact our team at [bcom@sprott.carleton.ca](mailto:bcom@sprott.carleton.ca) or at [bib@sprott.carleton.ca](mailto:bib@sprott.carleton.ca).

### **Centre for Student Academic Support**

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: [carleton.ca/csas](http://carleton.ca/csas).

### **Important Information:**

- Students must always retain a copy of all work that is submitted.
  - All final grades are subject to the Dean's approval.
  - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <https://carleton.ca/its/get-started/new-students-2/>
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### **Covid-19 Information:**

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are [a number of actions you can take](#) to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

**Feeling sick?** Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms

while on campus or in class, please leave campus immediately. In all situations, you must follow Carleton's [symptom reporting protocols](#).

**Masks:** Carleton has paused the [COVID-19 Mask Policy](#), but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

**Vaccines:** Further, while proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in [cuScreen](#) as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the [University's COVID-19 website](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact [covidinfo@carleton.ca](mailto:covidinfo@carleton.ca).

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