



## **Derivatives**

BUSI3512C

WINTER 2025

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**Modality:** In-person

**Class Times:** Wednesday 2:35 – 5:25 PM

**In order to stay updated with important notifications and announcements from Carleton University, please download the Carleton University App. This will ensure you receive timely information regarding your courses and other university-related updates throughout the term.**

**Pre-requisites:** BUSI 2501 or BUSI 2505 (with a grade of C+ or higher in each), and STAT 2601 or STAT 2606 and ECON 1001 and ECON 1002 and MATH 1009 (with a grade of C- or higher in each).

**Course Calendar Description** (from the [2024/2025 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 introductory course will focus on options, futures and forwards, and swaps. We will examine trading strategies and risk hedging using these derivatives. We will also consider pricing these derivatives accordingly.

## Drop Course Policy

The deadline for academic withdrawal follows the dates prescribed by Carleton University: <https://calendar.carleton.ca/academicyear/>

The deadline to drop this course with full fee adjustment is January 31<sup>st</sup>, 2025. The last day to withdraw from full winter courses is March 15<sup>th</sup>, 2025.

## Learning Outcomes:

1. Understand the structure of Options, Futures and Forwards, and Swaps
2. Recognize the uses of derivatives
3. Become familiar with hedging strategies using derivatives
4. Price Options and Futures/Forwards

## Reading(s)/Textbook(s)/Required Materials

John C Hull, Options, Futures, and Other Derivatives, 11th ed., 2022.

**Starting at \$44.00 on Amazon / \$116.25 DIGITAL & \$274.84 PAPERBACK from Bookstore**

Students are not required to purchase textbooks or other learning materials for this course.

## Methods of Evaluation / Grading Scheme / Course Completion Requirements

Deliverable	Due Date	Weight
Assignment 1	January 29, 2024	15%
Assignment 2	March 5, 2024	
Midterm 1	February 12, 2024	25%
Midterm 2	March 19, 2024	25%
Exam	TDB	35%

## Midterm and Final Exam

Midterms and Final Exam will be written in-person during class time.

## Late Assignments:

Assignments submitted past the due date will receive a pre-defined penalty outlined one each assignment per day. Exceptions to this include verifiable illness and emergencies, only when communicated directly to me within three 2 business days following the due date.

## Deferred Examinations/Assignments:

Deferred midterms will take place on Monday February 24<sup>th</sup> (Midterm #1) and Monday March 24<sup>th</sup> (Midterm #2) held at 7:15 AM in NI 4030. No other deferral options will be considered. If you are unable to attend the deferred midterm, the weight of said midterm will move to the final exam.

If you wish to defer a **Formal Final Exam**, you – the student – must reach out to the registrar's office with the proper documentation prior to the deadline (please refer to <https://carleton.ca/registrar/deferral/> for dates). Once the request has been put through, your instructor will be notified for their approval. Your final exam will be formally scheduled. If you miss the deadline for applying for a deferral, please reach out to your instructor personally to discuss.

### Preparation and Participation:

Students are expected to attend all classes in person and participate accordingly. Class notes and solutions to exercises will not be posted online. Attendance and participation are highly encouraged.

### Course Schedule

<b>Class</b>	<b>Date</b>	<b>Material/Deliverables</b>
Class #1	January 8, 2025	Introduction Risks, Credit Risks, Hedging  Slides
Class #2	January 15, 2025	Mechanics of Options Markets, Properties of stock options Chapter 10, 11, Slides
Class #3	January 22, 2025	Properties of stock options (con't), Trading Strategies of Options Chapter 11, 12, Slides
Class #4	January 29, 2025	Binomial Trees, Black Scholes Merton Model Chapter 13, 15, Slides  <b>Assignment 1 Due</b>
Class #5	February 5, 2025	Credit Risks 24, Slides  Midterm 1 Review
Class #6	February 12, 2025	<b>Midterm 1 (in-class)</b>
Winter Break	February 19, 2025	Winter Break
Class #7	February 26, 2025	Mechanics of Futures and Forward Markets, Hedging Strategies Using Futures Chapter 2, 3, Slides
Class #8	March 5, 2025	Hedging Strategies Using Futures, Determination of Forward and Futures Prices Chapter 3, 5  <b>Assignment 2 Due</b>
Class #9	March 12, 2025	Interest Rates, Chapter 4, Slides  Midterm 2 Review
Class #10	March 19, 2025	<b>Midterm 2 (in-class)</b>
Class #11	March 26, 2025	Swaps Chapter 7, Slides
Class #12	April 2, 2025	Exam Review

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

<b>Program Learning Goal</b>	<b>Competencies Not Covered</b>	<b>Competencies Introduced (only)</b>	<b>Competencies Taught But Not Assessed</b>	<b>Competencies Taught and Assessed</b>
<b>BC1 Knowledge</b> <i>Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.</i>				✓
<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>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>BC4 Communication</b> <i>Graduates will be effective and persuasive in their communications.</i>		✓		
<b>BI5 Global Awareness (BIB ONLY)</b> <i>Graduates will be globally-minded.</i>				

## 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, followership, 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

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes,

including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website ([students.carleton.ca/course-outline](https://students.carleton.ca/course-outline)).

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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