



**BUSI 3512 C  
WINTER 2015  
DERIVATIVES**

**Instructor:** Dr. Yuriy Zabolotnyuk, CFA, FRM  
**Office:** Dunton Tower 1713  
**Office Hours:** Monday 2.35PM-3.25PM or by appointment  
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**Course meets:** Monday 11:35AM-2:25PM in Tory 446

**Pre-requisites & precluded Courses:** BUSI 2505 with a grade of C+ or higher in each and STAT 2606 and ECON 2009 with a grade of C- or higher.

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**Calendar Description:**

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 and Objectives:**

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.

**Reading (s)/Textbook (s):**

John Hull, *Options, Futures, and Other Derivatives*, 9th ed., Prentice Hall, 2014.

**Grading Scheme:**

In-class quizzes (best 3 of 4)	20%
Options trading simulation	10%
Mid-term exam	25-30%
Final exam	40-45%
Total	100%

**Expectations:**

The course will require you to both understand the economic intuition of financial concepts and to perform mathematical calculation. \

(1) **Reading** – You are expected to have covered the readings before class. After class, you should re-read the chapter to gain a complete understanding of the material.

(2) **Sample Problems** – Finance cannot be learned without solving problems. To ensure that you understand the material, sample problems will be given. These problems will NOT be graded. However, it is strongly recommended that you try solving the assigned problems as they will help you in preparation for quizzes and exams. Group work on the sample problems is encouraged.

### ***Notes on Examinations and Quizzes***

The mid-term test and the final exam will cover both the theory and application of topics covered in classes and the readings. The mid-term test and final examination are closed-book and closed-notes. Students are allowed to bring in a TI BAII plus calculator only. The final exam will be comprehensive. Both midterm and final will consist of multiple choice and short essay/problem type questions. The date for the final exam will be posted by the University later in the semester. Quizzes are designed to focus on material that was just covered. They will be approximately 15-20 minutes in length.

### ***Exam and Quiz Attendance***

If a student is unable to sit for a quiz or mid-term test due to verifiable illness (or, in rare cases, some other circumstances beyond your control), the mark allocation to that quiz will be allocated to remaining quizzes; the mark allocation for the mid-term test will be allocated to the final exam. If a student is unable to sit for the final exam, the student may apply to the Registrar's Office to write a deferred examination. Deferral final examination will only be granted to students showing satisfactory in-term performance (as described below). Please also see Sections 2.4, 2.5 and 2.6 of the Undergraduate Calendar. It should be noted that deferred examinations are not granted to students who make travel plans that conflict with the examination period.

### **Satisfactory In-term Performance**

1. The criterion and the standard for Satisfactory In-term Performance are as follow:  
50% of total pre-final exam work (cumulative) marks. This includes total marks for all quizzes and midterm exam.

2. Unsatisfactory In-term Performance in this course will lead to

Failure in this course (regardless of the performance at the Final exam or final project)  
FND grade in this course (in case of missed Final exam)

**No**  
**Yes**

**COURSE SCHEDULE (TENTATIVE AND SUBJECT TO CHANGES)**

<b>Date</b>	<b>Topic</b>	<b>Chapter in Hull</b>
Jan.5	Introduction and Mechanics of Futures and Forward Markets	1, 2
Jan.12	Hedging Strategies Using Futures	3
Jan.19	<b>Quiz 1</b> Determination of Forward and Futures Prices	5
Jan.26	Swaps	7
Feb. 2	<b>Quiz 2</b> Mechanics of Options Markets	10
Feb 9	Properties of Stock Options	11
Feb.16	<b>Reading break (no class)</b>	
<b>Feb. 23</b>	<b>MIDTERM (in class)</b>	
Mar.2	Trading Strategies Involving Options	12
Mar.9	<b>Quiz 3</b> Binomial Trees	13
Mar.16	The Black-Scholes-Merton Model	15
Mar.23	<b>Quiz 4</b> Employee Stock Options	16
Mar.30	Options on Stock Indices, Currencies, and Futures	17, 18
Apr.6	The Greeks (time permitting)	19

***Students' Responsibilities***

Students are responsible for all readings listed on the course schedule regardless of whether or not specific mention of certain topics is made in class and regardless of whether or not topics are addressed in class. Because of time constraints, it will be impossible to cover all the chapter material in class. Class time will be spent on the most important topics and on the topics where students receive the most benefit from explanation in class.

**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.

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	WDN = Withdrawn from the course		

ABS = Student absent from final exam

DEF = Deferred (See above)

FND = (Failed, no Deferred) = Student could not pass the course even with 100% on final exam

### **Academic Regulations, Accommodations, Plagiarism, Etc.**

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://www.carleton.ca/calendars/ugrad/current/regulations/acadregsuniv.html>

### **Requests for Academic Accommodations**

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

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your **Letter of Accommodation** at the beginning of the term, and 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 me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (*if applicable*).

- The deadlines for contacting the Paul Menton Centre regarding accommodation for final exams for the April 2015 exam period is March 6, 2015.

#### *For Religious Obligations:*

Students requesting academic accommodation on the basis of religious obligation should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory event.

Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student.

Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance.

*For Pregnancy:*

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

### **Plagiarism**

Plagiarism is the passing off of someone else's work as your own and is a serious academic offence. For the details of what constitutes plagiarism, the potential penalties and the procedures refer to the section on Instructional Offences in the Undergraduate Calendar.

*What are the Penalties for Plagiarism?*

A student found to have plagiarized an assignment may be subject to one of several penalties including: expulsion; suspension from all studies at Carleton; suspension from full-time studies; and/or a reprimand; a refusal of permission to continue or to register in a specific degree program; academic probation; award of an FNS, Fail, or an ABS.

*What are the Procedures?*

All allegations of plagiarism are reported to the faculty of Dean of FASS and Management. Documentation is prepared by instructors and/or departmental chairs. The Dean writes to the student and the University Ombudsperson about the alleged plagiarism.

The Dean reviews the allegation. If it is not resolved at this level then it is referred to a tribunal appointed by the Senate.

**Plagiarism and cheating at the graduate level are viewed as being particularly serious and the sanctions imposed are accordingly severe.** Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy (See <http://www2.carleton.ca/sasc/advisingcentre/academic-integrity/>). The Policy is strictly enforced and is binding on all students. Plagiarism and cheating – 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 graduate degree. Academic dishonesty in any form will not be tolerated. Students who infringe the Policy may be subject to one of several penalties including: expulsion; suspension from all studies at Carleton; suspension from full-time studies; a refusal of permission to continue or to register in a specific degree program; academic probation; or a grade of Failure in the course.

### **Assistance for Students:**

Student Academic Success Centre (SASC): [www.carleton.ca/sasc](http://www.carleton.ca/sasc)

Writing Tutorial Services: [www.carleton.ca/wts](http://www.carleton.ca/wts)

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Peer Assisted Study Sessions (PASS): [www.carleton.ca/sasc/peer-assisted-study-sessions](http://www.carleton.ca/sasc/peer-assisted-study-sessions)

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