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**MOS 4312A Derivatives  
Sections – 001 & 002  
Fall 2018  
Course Outline**

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**1. Course Information:**

1.1 Class Location and Time:

**Section 001**      **Tuesdays and Thursdays 3:30pm - 5:30 pm in TC 202**  
**Section 002**      **Tuesdays and Thursdays 11:30am – 1:30pm in SSC 3018**

1.2 Contact Information:

Instructor: Shahbaz Sheikh  
Office: SSC, Room 4416  
Office Hours: Wednesday 1-3 pm  
Phone: 661-2111 x82294  
Email: [ssheik2@uwo.ca](mailto:ssheik2@uwo.ca)  
Website Address: <http://owl.uwo.ca/portal>

DAN Management and Organizational Studies strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities. Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2147 for any specific question regarding an accommodation.

More information about “Accessibility at Western” is available at: <http://accessibility.uwo.ca>

**2. Calendar Description**

2.1 Course Description:

This course provides students with a framework for understanding the design and valuation of derivative securities. It familiarizes them with the instruments and institutions of financial

markets, focusing particularly on "derivatives" markets (futures, options, etc.). Students learn with a series of simulation exercises in excel spreadsheet using real data.

4 lecture hours, 0.5 course.

Anti-requisite(s): MOS 3312 a/b

Prerequisite(s): MOS 2311A/B and enrolment in 4th year of BMOS

## 2.2 Senate Regulations

Senate Regulations state, "unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites."

This regulation is in regards to the COURSES required. Students not in BMOS are permitted to enroll in up to 1.0 MOS courses, per the Academic Timetable.

## 3. Textbook

John C. Hull," Fundamentals of Futures and Options Markets", Ninth Edition, Pearson Canada Education Inc. 2017.

ISBN-13 978-0-13-408324-7

ISBN-10 0-13-408324-5

Solutions Manual and Study Guide ISBN-13 0-13-408365-2

## 4. Course Objectives and Format

### 4.1 Course objectives

The goal of this course is to provide students with a framework for understanding the design and valuation of derivative securities and their use in managing corporate financial risk.

This course is designed to introduce students to the instruments and institutions of international financial markets, focusing particularly on "derivatives" markets (forwards, futures, options, swaps, etc.). Students will also be exposed to various computational models of option risk analysis via a series of simulation exercises in excel spreadsheet.

### 4.2 Course format

Lectures and class discussions

## 5. Learning Outcomes

Upon successful completion of this course, students will be able to

- Explain the mechanics of Derivative markets
- Calculate Futures and Forwards prices
- Compare Futures and Forwards and their use in risk management
- Describe and calculate Value at Risk (VaR)
- Demonstrate basic knowledge of SWAP markets and estimate the value of SWAP to the parties.
- Understand how option markets work and explain various types of options and their payoff structures
- Explain and calculate trading strategies involving options e.g. Spreads and Combinations
- Estimate Binomial option valuation and Black and Scholes option valuation models

## 6. Evaluation

Midterm Exam	30%
Final Exam	40%
Spreadsheet Assignments	20%
Class Contribution	10%

Exams are in Short essay and numerical format and are **closed book**. The midterm exam will be two hours and thirty minutes. The final exam will be scheduled for Three hours. **Dictionaries are NOT allowed into the examinations.**

**Only non-programmable calculators will be allowed into the exams.** If you are unsure, please ask your professor to check your calculator.

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text. Exams 1 and 2 will be in class time. The third exam will be scheduled during the exam period. Exams will not be returned to students but may be reviewed in the instructor's office.

Students are **REQUIRED TO COMPLETE ALL COMPONENTS** of this course. There are no exceptions to this. Extra assignments to improve grades **will NOT** be allowed.

Exams will be scored using the program Scan Exam which examines the answer sheets for unusual coincidences in the pattern of answers given which may be indicative and used as supporting evidence of cheating.

**Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: *You* are responsible for your grades in this course.**

## 7. Lecture and Examination Schedule

### Tentative Time Table

Lecture	Date	Topic	Chapter
1	September 6	Introduction – The Rationale for Risk Management Froot et al., Framework for Risk Management, Harvard Bus. Review, Nov. 1994.	1
2	September 11	Futures Markets and Central Counterparties	2
3	September 13	Futures Markets and Central Counterparties	2
4	September 18	Hedging Strategies Using Futures	3
5	September 20	Hedging Strategies Using Futures	3
6	September 25	Interest Rates	4
7	September 27	Interest Rates	4
8	October 2	Determination of Forward and Futures Prices	5
9	October 4	Determination of Forward and Futures Prices	5

### Thanksgiving and Fall Reading Week

10	October 16	Value at Risk (VaR)	20
11	October 18	Swaps – Introduction and Mechanics	7
12	October 23	Swaps - Valuation	7
13	October 25	Midterm Review – if possible	

### October 27

### Midterm Exam

14	November 1	Mechanics of Options Markets <i>Value at Risk (VaR) – Spreadsheet Assignment</i>	9
15	November 6	Properties of Stock Options	10
16	November 8	Properties of Stock Options <i>SWAPS Valuation – Spreadsheet Assignment</i>	10
17	November 13	Trading Strategies Involving Options	11
18	November 15	Trading Strategies Involving Options	11
19	November 20	Introduction to Binomial Trees	12
20	November 22	Introduction to Binomial Trees	12
21	November 27	Valuing Stock Options: The Black-Scholes-Merton Model <i>Valuing Options – Spreadsheet Assignment</i>	13
22	November 29	The Greek Letters	17
23	December 4	Employee Stock Option	14
24	December 6	Securitization and the Credit Crisis	8
		Derivatives Mishaps and What We Can Learn From Them	25

## 8. Student Responsibilities

Material covered in lectures will not always be the same as material covered in the textbook. These two sources should be viewed as complimentary and not redundant. As such, students who want to do well in this course are **strongly encouraged** to attend lectures on a regular basis. Please note that the instructor will not be providing copies of lectures notes or overheads. Therefore, if you miss a lecture, you should try to obtain this material from another student.

### 8.1 Respect

Please act respectfully towards the classroom, the Professor and your fellow students. Acting respectfully means arriving on time, turning off phones, avoiding private discussions during lectures, refraining from viewing non-course material on your laptops, and cleaning up after yourself. Acting respectfully provides a better learning experience for everyone.

Private in-class discussions are distracting to students and the Professor. If other students are distracting your attention from the material, you should ask them to be quiet. If you feel uncomfortable doing this (or the problem persists), please see the instructor.

Late arrivals are also distracting. Please try to arrive on time for classes.

### 8.2 No Recording of Classes

Students are not permitted to record any portion of a class, audio or video, without the prior written permission of the professor.

## 9. Exam Policies

- Bring student identification to exams.
- Nothing is to be on/at one's desk during an exam except a pencil, an eraser, and the individual's student card
- Do not wear baseball caps to exams
- Do not bring music players, cell phones, beepers, or other electronic devices to exams
- To ensure fairness to all students, questions will not be answered during exams.

## 10. E-mail Policies

The following policies apply to all emails between students and the Professor. Please respect the fact that the Professor receives hundreds of emails from stud students and must deal with those emails in a fair and organized manner. Unacceptable emails will receive a reply saying only "Please see Email Policies on the course outline".

### 10.1 UWO.CA Email Addresses Only

For privacy reasons, students must use their Western email accounts to contact the Professor. The Professor will not respond to emails from non-uwo.ca addresses (e.g. hotmail.com, gmail.com, etc.).

### 10.2 Subject Line Must Include Course and Section Number

The subject line of emails must contain the name or number of the course, and the section number in which the student is enrolled. The Professor teaches different courses and sections and cannot properly respond to questions if he does not know which course or section you are enrolled in.

### 10.3 Acceptable Emails

- questions about the course content or materials
- asking to set up an appointment to ask questions or review an exam
- notification of illness or other special circumstances
- providing constructive comments or feedback about the course

## 10.4 Unacceptable Emails

- questions that may be answered on OWL or on this course outline
- asking when grades will be posted
- asking what grade a student received
- asking where or when an exam is scheduled or the material covered on an exam
- requests for grade increases, extra assignments, or reweighting of course components

## 11. Attendance

It is expected that students will attend all classes. The professor does not provide access to lecture notes. Students are encouraged to obtain missed lecture notes from a fellow student.

### 11.1 Short Absences.

If you miss a class due to minor illness or other problems, check your course outlines for information regarding attendance requirements and make sure you are not missing a test or exam. Cover any readings and arrange to borrow the missed lectures notes from a classmate.

### 11.2 Extended Absences.

If you are absent more than approximately two weeks or if you get too far behind to catch up, you should consider reducing your workload by dropping one or more courses. The [Academic Counsellors](#) can help you to consider the alternatives. At your request, they can also keep your instructors informed about your difficulties.

## 12. Grade Fairness

Fairness requires that all students be treated equally and be evaluated using the criteria set out in this course outline. The evaluation criteria are based on actual achievement and not on how hard a student has tried. Claims by students of an excellent academic history, good attendance record, need to obtain or maintain a scholarship, desire to be admitted to Ivey or graduate school, or other personal issues, cannot be used to justify a higher grade in the course or a reweighting of course components. There is no extra work or assignments available for extra credit or to “make up” for a course component that was missed or performed poorly.

## 13. Posting of Grades

Midterm exam grades will be posted on OWL once the grades are available. Final exam grades and final course grades are not posted on OWL and are available once they have been posted by the Registrar under “Academic Summary” at the [Student Centre](#) website.

## 14. University Policy Regarding Illness

### 14.1 Illness

The University recognizes that a student’s ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. Illness may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. The University further recognizes that medical situations are deeply personal and respects the need for privacy and confidentiality in these matters. However, in order to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student’s overall grade in the course shall be granted only in those cases where there is documentation supplied (see below for process) indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

Documentation shall be submitted, as soon as possible, to the appropriate Dean’s office (the Office of the Dean of the student’s Faculty of registration/home Faculty) together with a request for relief specifying the nature of the accommodation being requested. These documents will be retained in the student’s file, and will

be held in confidence in accordance with the University's Official Student Record Information Privacy Policy [http://www.uwo.ca/univsec/pdf/academic\\_policies/general/privacy.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/general/privacy.pdf)

Once the petition and supporting documents have been received and assessed, appropriate academic accommodation shall be determined by the Dean's Office in consultation with the student's instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty.

Academic accommodation shall be granted only where the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete his/her academic responsibilities. (Note: it will not be sufficient to provide documentation indicating simply that the student was seen for a medical reason or was ill.)

A form to be completed by off-campus physicians is available at:  
[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf)

whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Students must follow up with their professors and their Academic Counselling office in a timely manner.

In the case of a final examination in the course, the student must arrange for a Special Examination or Incomplete through their Dean's office, for which you will be required to provide acceptable documentation.

If you feel that you have a medical or personal problem that is interfering with your work, you should contact your instructor and the Faculty Academic Counselling Office as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. In general, retroactive requests for grade revisions on medical or compassionate grounds will not be considered.

## 14.2 Make Up Examinations

The student must write a make-up exam if the regularly scheduled exam is missed for reasons for which adequate documentation is received by the instructor (this documentation must be supplied by the [Academic Counseling office](#)).

## 15. University Policy on Cheating and Academic Misconduct

Cheating on exams will not be tolerated; students are referred to the university policy on scholastic offenses. Looking at the test of another student, allowing another student to view your exam, or obtaining information about a test in advance are all examples of cheating. Students found cheating will receive a zero (0%) on that exam. A number of safeguards will be employed to discourage cheating. For example, examination supervisors (proctors) of the tests may ask students to move to another seat during the exam, cover their paper, avert their eyes from other students' papers, remove baseball caps, etc. This is not meant as a personal affront nor as an accusation of cheating, rather as vigilant attempts at proctoring. A copy of guidelines about how to avoid cheating can be obtained from the office of the [Ombudsperson](#), Room 3135 WSSB, (519) 661-3573, [ombuds@uwo.ca](mailto:ombuds@uwo.ca).

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offenses. Students are urged to read the section on Scholastic Offenses in the [Academic Calendar](#). Note that such offenses include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has

previously been obtained or is being sought in another course in the University or elsewhere. If you are in doubt about whether what you are doing is inappropriate, consult your instructor. A claim that "you didn't know it was wrong" will not be accepted as an excuse.

The penalties for a student guilty of a scholastic offense include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

## **16. Procedures for Appealing Academic Evaluations**

1. In the first instance, all appeals of a grade must be made to the course instructor (informal consultation).
2. If the student is not satisfied with the decision of the course instructor, a written appeal must be sent to the Undergraduate Chair: Student Affairs of the Department of Management and Organizational Studies.
3. If the response of the Undergraduate Chair is considered unsatisfactory to the student, he/she may then appeal to the Dean of the Faculty in which the course of program was taken.
4. Only after receiving a final decision from the Dean, may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the [Ombudsperson's Office](#).

## **17. Support Services**

### **17.1 Support Services**

The Registrar's office can be accessed for Student Support Services at <http://www.registrar.uwo.ca>  
Student Support Services (*including the services provided by the USC listed here*) can be reached at:

<http://westernusc.ca/services/>

Student Development Services can be reached at: <http://www.sdc.uwo.ca/>

Students who are in emotional/mental distress should refer to Mental Health@Western  
[http://www.health.uwo.ca/mental\\_health/](http://www.health.uwo.ca/mental_health/) for a complete list of options about how to obtain help.

### **17.2 Academic Concerns.**

If you are in academic difficulty, it is strongly recommended that you see your [academic counsellor](#).

## **18. Other Issues**

### **18.1 Grade Policy**

The DAN Department has a grade policy which states that for courses in the x000-y000 range, the class average must fall between x% and y% for all sections of a course taught by the same instructor. In very exceptional circumstances only, class averages outside this range may be approved by the Undergraduate Chair or Chair. Class averages are not grounds for appeal.

### **18.2 Senate Policy**

For The University of Western Ontario Senate Regulations, please see the Handbook of Academic and Scholarship Policy at: [http://www.uwo.ca/univsec/academic\\_policies/index.html](http://www.uwo.ca/univsec/academic_policies/index.html)