

BUS 494 - 001 – Derivatives and Risk Management

2023 Fall (August 30 – Dec 5)

Instructor:	Dr. Helen Huang
Class time:	MW 10 – 11:15am
Venue:	ED 621
Virtual office hours:	MW 11:15am-11:45am or by appointment via zoom Extra office hours before mid-terms and final exams will be provided
E-mail:	helen.huang@uregina.ca <u>Communication via URCourses email system is preferred</u>
Prerequisites:	BUS 290

Course Description:

A wide variety of complex financial instruments have been developed over the past three decades. Many of these products fall under the category of derivatives, instruments whose values derive from other more fundamental assets such as commodities, currency exchange rates, stocks (equities) and bonds (interest rates). The building blocks for many of these complex financial instruments are four basic derivative instruments: forwards, futures, options, and swaps. The purpose of this course is to introduce participants to derivative securities with particular focus on these basic instruments. Towards this end, we will examine the structure of these instruments, their valuation, and their use for speculation and risk management. To success in this course, problem-solving technique is essential.

Text:

The textbook for this course is

Fundamentals of Futures and Options Markets, Ninth Edition, John C. Hull, Prentice Hall, 2017.

The Solutions Manual and Study Guide, Ninth Edition, which contains solutions to end-of-chapter questions and problems is **recommended**.

All course materials and communications will take place on URCourses <https://urcourses.uregina.ca/>. It is the students' responsibility to check URCourses regularly for new postings and announcements.

Assessments:

- There will be seven quizzes, each lasts 10 minutes, on the following Wednesdays:

Quiz 1: Wednesday, **September 13**

Quiz 2: Wednesday, **September 20**

Quiz 3: Wednesday, **September 27**

Quiz 4: Wednesday, **October 18**

Quiz 5: Wednesday, **October 25**

Quiz 6: Wednesday, **November 1**

Quiz 7: Wednesday, **November 29**

I will select the best 6 grades for the quizzes out of 7. Each quiz will be worth 2%. The total of the quizzes will be 12%.

- There will be two mid-terms on the following dates during class time:

In-class mid-term 1: Wednesday, **October 4**

In-class mid-term 2: Wednesday, **November 8**

The weight for each mid-term is 20%. Practices will be provided before each exam. Please make sure you can do these practice questions.

- **Group project:** there will be a project for groups of one to three students. Details of the group project will be provided during the course. The weight for the group project is 8%
- **Final exams** will take place 9am-noon on Wednesday, December 13, 2023. It will be comprehensive and covers everything we learn in this course. The weight is 40%.
- An **alternative weight of 5%-5%-70%** which will be offered to apply to mid-term 1, mid-term 2, and final exam, respectively. I will take the **higher** mark of the two grading schemes.

Course Content:

The material to be covered in this course will be drawn from the following list:

- Introduction (Chapter 1)
- Futures Markets and Central Counterparties (Chapter 2)
- Interest Rates (Chapter 4)
- Determination of Futures and Forward Prices (Chapter 5)
- Hedging Strategies Using Futures (Chapter 3)

- Swaps (Chapter 7)
- Mechanics of Options Markets (Chapter 9)
- Properties of Stock Options (Chapter 10)
- Trading Strategies Involving Options (Chapter 11)
- Binomial Trees (Chapters 12 and 18)
- Valuing Stock Options: The Black-Scholes-Merton Model (Chapter 13)
- Options in Stock Indices and Currencies (Chapter 15)

Student Responsibilities

1. COVID-19 STATEMENT:

Any student who is experiencing COVID-19 symptoms and/or has tested positive for COVID-19 (and must, therefore, not come to campus), should contact me as soon as possible to discuss potential accommodations. A student who is unable to attend an on-campus midterm exam for these reasons should submit a student self-declaration of illness form to me, and we will discuss the potential for a deferred exam. If the exam is a final exam, the student self-declaration of illness form, together with a deferred exam application, should be submitted to Hill.Undergrad@uregina.ca.

2. Every effort should be made by you to ensure you write the *two mid-terms* during their *scheduled* times. The only exceptions are *serious illness of the student* or *family crisis*. In the case of illness, *within 5 business days of the missed exam*, you must provide me with a *physician's certificate* clearly stating that the illness prevented you from being able to write the exam (with the exception of COVID).

If you must miss a mid-term due to illness or family crisis, *no make-up exam will be given*. Instead, the 20% weight of the mid-term will be transferred to the final exam (i.e., 60%). However, this weight transfer will not happen automatically. I will only transfer the weight if you provide me with a written request to do so within 5 business days of the missed exam (i.e. if you do not write a mid-term, and do not provide me with a written request to transfer the weight of the missed mid-term to the final within 5 business days, you will automatically receive a grade of zero on the mid-term). This *written request must explain the reason why you are unable to write the mid-term, and must state that you wish to transfer the weight of the mid-term to your final*.

Weight transfer will not be granted for any factors that are within the control of the student – i.e. travel plans, work conflicts, timetabling conflicts with exams in other courses, etc. Please adjust your schedule accordingly.

I will submit your written request and/or medical attestation to the Records Management of the Faculty of Business Administration at the end of the semester.

3. Every effort should be made to ensure you are available to write the Final Exam during its scheduled time. If you are absolutely unable to write the Final during its scheduled time, you must see the general office in the Faculty in which you are enrolled and formally request a deferred exam. *Deferred exams* will only be granted in cases of exceptional circumstances (i.e. serious illness of the student, compassionate family reasons, etc.).

Deferred exams will NOT be granted for any factors that are within the control of the student – i.e. travel plans, work conflicts, timetabling conflicts with exams in other courses, etc. Please adjust your schedule accordingly.

4. Regular attendance for the classes is expected. If you must miss a class, it is your responsibility to get notes of class discussions, etc., from a classmate.
5. Every student is expected to adhere rigorously to the Hill and Levene Student Code of Professional & Ethical Conduct, especially the following:
 - Every assignment that a student submits for University of Regina classes will be her/his own work, or in the case of group submissions, the work of her/his group members.
 - Every paper, report, reflection, journal, or other similar work that a student submits will properly acknowledge the source of ideas contained therein.
 - Every exam or quiz that a student writes will be done with honesty and integrity, following all University and instructor requirements.
6. If there is any student in this course who, because of a *disability*, may have a need for accommodations, please email me and discuss it with me, as well as contacting the Special Needs Services at 585-4631.
7. Communicating with me regarding any course-related matters (questions concerning the material, coverage of exams, etc) must be done either:
 - in virtual meetings (i.e. during my scheduled zoom office hours, or by making an appointment),
 - by e-mail. When you contact me by email, please do so in URCourses.Please note that when you ask me questions in emails, only short questions (i.e. questions do not require extensive typing or mathematical formulas) will be answered. Emails within 24 hours before an exam will not be answered.
8. If you want to talk to me outside of class-time, please plan-ahead. Either make use of my scheduled virtual office hours, or make an appointment. Last-minute (ex. within 12 hours before an exam) requests by students to talk to me cannot

always be met, so planning-ahead is important.