THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

BUSINESS SCHOOL

Course Outline 2017
FINANCE 362: RISK MANAGEMENT (15 POINTS)

Semester 2 (1175)

Course Prescription

Examines theoretical and practical aspects of risk management with an emphasis on the effective use of futures, options and other financial derivatives to control market risk exposure. Reviews no-arbitrage methods used to value financial futures and options, including the Black-Scholes model and binomial tree numerical methods.

Programme and Course Advice

Prerequisite: FINANCE 261 and MATHS 208 or 250

Goals of the Course

To provide students with an understanding of the basic tools employed in managing financial risks. The course focuses on how firms use a range of derivative instruments including forward, futures options, and swap contracts to manage financial price risks. This course is designed to provide students with a strong theoretical base and sound analytical skills.

Learning Outcomes

By the end of this course it is expected that the student will be able to:

1. price a range of derivative securities;
    - calculate the theoretical prices of forward, futures and swap contracts on a range of financial and real assets using no-arbitrage arguments;
    - compute the theoretical price of option contracts on a range of financial and real commodities using no-arbitrage arguments and the techniques of risk-neutral valuation;
    - calculate upper and lower bounds on options prices using no-arbitrage arguments;
    - distinguish between the price of a derivative security and the value of a position in the derivative security;
    - value interest rate, currency, and credit default swaps;

2. identify risk management issues facing investors and corporations;
    - identify the financial risk facing investors and corporations;
    - identify the instruments that can be employed to hedge the financial risks faced by investors and corporations;
    - discuss the relative merits of alternative hedging instruments;

3. implement risk management strategies;
    - determine the number (and position of) derivative contacts that must be employed to hedge a given exposure;
    - compute the payoffs from a given hedging strategy;
    - demonstrate how dynamic hedging strategies can be employed to hedge option risks and provide portfolio insurance; and
    - determine the benefits that accrue to parties to a swap arrangement.

Content Outline

Week 1	Introduction to Risk Management
Week 1-2	Introduction to Forwards and Futures
Week 2-3	Pricing of Forwards and Futures
Week 4-5	Hedging with Futures
Week 6	Basics of Swaps
Week 7	Basics of Credit default derivatives
Week 8	Introduction to Options
Week 9	Option Trading Strategies
Week 9-11	Option Pricing
Week 11-12	Option Risks, Hedging Options

Learning and Teaching

This course is taught on the city campus and the anticipated class size will be approximately 150-200 students. The course will be delivered via three hours of lectures per week plus a one-hour tutorial. A tutor will also be available for consultation four hours per week. Although this paper schedules only three formal hours of lectures per week students are expected to devote at least six additional hours each week in reading and revision and attend any tutorials that may be offered. Many of the concepts you encounter will likely be completely new to you. We will guide you through the learning process in lectures. Gaining a deeper understanding will require a great deal of effort from you; we do not expect you to understand immediately and fully the concepts we discuss in lectures. We can only hope that you will think about these further after the lectures, read the textbook and complete the revision problems we have assigned.

Learning Resources

The prescribed text for this course is Hull (2014) *Fundamentals of Futures and Options Markets* (8th International Edition), Pearson. This textbook is the world's most popular undergraduate textbook on derivative securities.

You can find on Canvas all relevant materials, including the course outline, lecture slides, miscellaneous resources, end-of-topic revision problems and copies of past mid-semester tests and final examinations.

You should regularly check Canvas for course announcements and other important material that may be posted during the semester. Solutions to revision problems will be available online through Canvas.

Inclusive Learning

Students are urged to discuss privately any impairment-related requirements face-to-face and/or in written form with the course convenor/lecturer and/or tutor.

Student Feedback

You may be asked to complete course, teaching or tutor evaluations at the end of the course, or formative mid-course evaluations/fast feedback during the course.

Your feedback is appreciated and we endeavour to implement any suggested improvements to the delivery of this course.

Plagiarism, Copying and Cheating

The University of Auckland will not tolerate cheating or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student's own work, reflecting his or her learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the world-wide web. A student's work may be reviewed against electronic source material using computerised detection mechanisms. Upon reasonable request, students may be required to provide an electronic version of their work for computerised review.

Students are encouraged to examine the following definitions of undesirable conduct:

Collusion occurs when two or more individuals combine their efforts in order to deceive the teaching staff as to who is responsible for a particular piece of work.
Co-operation may be permitted in certain circumstances, where a joint study effort, class presentation or group project forms an appropriate part of the overall assessment.

Plagiarism is a form of cheating. In coursework assignments submitted for marking, plagiarism can occur if you use the work and ideas of others without explicit acknowledgment. Work can be plagiarised from many sources, including books, journal articles, the internet, and other students' assignments. **A student's assessed work may be reviewed against electronic source material using computerised detection mechanisms. Upon reasonable request, students may be required to provide an electronic version of their work for computerised review.**

Assessment

The assessment methods and their weightings are:

Assessment type	***Weighting***
Assignment 1	10%
Assignment 2	10%
Mid-semester test	20%
Final examination (2 hours)	60%

Assignments are to be handed in at the Student Resource Centre. Due dates for assignments are:

Assignment 1	4:00 p.m., Friday, 18th August 2017 (Week 4)
Assignment 2	4:00 p.m., Friday, 20th October 2017 (Week 11)

The **mid-semester test** is tentatively scheduled to be held in class in Week 6 during the normal class hours (likely to be on 30th Aug). The mid-semester test will likely examine material covered in Weeks 1 to 6 inclusive. The **final examination** will examine all topics covered in this semester, but with an emphasis on materials covered from Weeks 7 to 12 inclusive. **A minimum mark of 50% in the final examination is expected as a pre-requisite to passing this course.**

The broad relationship between these assessments and the learning outcomes of the course is as follows:

Learning Outcome	Assignment 1	Assignment 2	Mid-semester test	Final Examination
1	**X**	**X**	**X**	**X**
2	**X**	**X**	**X**	**X**
3	**X**	**X**	**X**	**X**