Year and Semester: 2012 Semester 1

Unit convenor: Lurion De Mello

[Prerequisites / Corequisites:] ACST603 or admission to MActPrac or MCom or MEd or MIntBus prior to 2011. There are no Corequisites.

Credit points: 4

This unit was previously offered as AFIN828. Please note that the nature and contents of the unit remain the same in this semester’s offering as AFIN828.

Students in this unit should read this unit guide carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

ABOUT THIS UNIT

• This is an advanced-level unit concentrating on various techniques in investment and financial risk management. Topics include the analysis of risk and return, financial derivatives, international bond markets, dependence modelling, banking regulations, managing market, credit and operational risk and economic capital. A strong emphasis is placed upon developing a rigorous analytical skill-base which can then be applied to real-world issues in the financial industry.

• Topics include:
  • Portfolio Construction, Risk and Return
  • Single-factor models (CAPM) and Multi-factor models (APT)
  • Pension Plans, Mutual Funds and Hedge Funds
  • Financial Products and how they are used for hedging
  • Interest Rate Risk
  • Exchange Rates / Currency Risk
  • Volatility Modeling
  • Dependence, Correlations and Copulas
  • Bank Regulations and Basel II
  • Value-at-Risk and other Risk Measures
  • Managing Market Risk
  • Managing Credit Risk
  • Credit Derivatives and the Credit Crunch
  • Operational Risk, Model Risk and Liquidity Risk
TEACHING STAFF

- **Convenor**
  Name: Lurion De Mello  
  Email: lurion.demello@mq.edu.au  
  Room: E4A 512  
  Telephone: +61 2 9850 9179

- **Student Consultant**  
  Name: Ning Rong  
  Email: Ning.Rong@mq.edu.au

CONTACTING STAFF

Consultation Hours: Tuesday 12-2pm  
Room: E4B 108 (Common Student consultation Room)

You are encouraged to seek help at a time that is convenient to you from a staff member teaching on this unit during their regular consultation hours. In special circumstances, an appointment may be made outside regular consultation hours. Staff will not conduct consultations by email. You may, however, phone staff during their consultation hours.

In order to gain access to staff located at levels 1, 2 and 3 of building E4A during their consultation hours please ring the staff member from the phones available in the lobby (phone numbers of relevant staff members will be provided on Blackboard and are available next to the phones).

- **Other ways of contacting staff**  
  You are welcome to email me directly but if you query would benefit the majority or if your classmates were able to answer your query then please use Moodle by posting you query to the appropriate forum. This has always been a successful avenue to get questions answered promptly.

Students experiencing significant difficulties with any topic in the unit must seek assistance immediately.

CLASSES

- Classes in AFIN828 are composed of three hour lectures. Usually one hour of the lecture time will be spent on exercise questions. Unit materials are learnt by attending lectures and through independent learning (including discussions on the Moodle forums). The lectures provide a general overview of the topics highlighting a number of concepts and techniques. Further additional reading material will be provided but you will be expected to search the library and other web resources for further clarification of topics and concepts. Students are strongly advised to study the additional reading material provided by the unit convenor and further explore all relevant concepts and techniques.
• Students should attend a three-hour lecture every week. Lecture slides will be available prior to the lectures at the unit’s Web site.
• The timetable for classes can be found on the University web site at: https://timetables.mq.edu.au/2012/

**REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS**

• Required Text (Can be purchased from the Bookshop):


Additional to the recommended text, sometimes chapters from other books (see below) might be used in conjunction with journal articles and lecture notes.

*Other Recommended References (Can be purchased from online vendors but can also be ordered through the university and other bookshops):*


• Students needing assistance with **mathematics** should first consult:


**TECHNOLOGY USED AND REQUIRED**

Moodle is an online program available at [https://iLearn.mq.edu.au/login/MQ/](https://iLearn.mq.edu.au/login/MQ/) through which students will be able to access resources such as lecture notes and iLectures to assist them throughout the semester. The discussion forum environment will be extensively used to allow students to interact with each other.

Students should also have a solid background in using MS Excel at an intermediate to advanced level. You are expected to spend your on private time in ensuring you are up to speed with this program. In addition you should be familiar with the program Derivagem available at the back of your textbook. This program also has various websites. For example [http://www.rotman.utoronto.ca/~hull/software/](http://www.rotman.utoronto.ca/~hull/software/) and [www.rotman.utoronto.ca/~hull/riskman/.../Example17_1.xls](http://www.rotman.utoronto.ca/~hull/riskman/.../Example17_1.xls)

**UNIT WEB PAGE**

Course material is available on the learning management system at [http://iLearn.mq.edu.au](http://iLearn.mq.edu.au)

You are strongly encouraged to regularly visit the website and use it as a resource centre to assist with your learning.

If you are unable to access the website because you are not aware of or have forgotten your username and password, please contact the IT helpdesk. All information can be found at [http://informatics.mq.edu.au/help/](http://informatics.mq.edu.au/help/)

With regards to assistance in using Moodle please visit the following link. [http://www.mq.edu.au/iLearn/student_info/index.htm](http://www.mq.edu.au/iLearn/student_info/index.htm)

You can follow the tabs on the left, i.e., “Getting Started” and “Access iLearn”

Please remember to log out when you have finished using iLearn. Failure to do so could result in unauthorised access to your iLearn account.

**LEARNING OUTCOMES**

The learning outcomes of this unit are:

The globalization of financial markets offers opportunities, but it also introduces new risks. As a response, novel investment techniques as well as advanced models for risk management have been introduced or are being developed. The aim of the unit is to prepare students for analytical duties a graduate is expected to carry out in a financial institution or for research for a higher degree. On completing the unit, successful students will also attain practical knowledge of how to apply and evaluate the quantitative methods covered in the course in analysing and managing portfolios.
as well as the risk arising from various financial investments. In particular, students are expected to be able to:

- examine and find optimal investments strategies with respect to expected returns and risks involved and dependencies between financial instruments
- attain an excellent knowledge of the role and characteristics of international financial markets and the institutions and intermediaries;
- understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for hedging;
- evaluate econometric models for financial variables, for example with respect to their volatility, dependence structure and time series properties; and
- acquire an extensive knowledge on the major approaches to managing market credit and operational risks and banking regulations as they are suggested in the new Basel Capital Accord;

**GRADUATE CAPABILITIES**

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop the capabilities the University's graduates will need to develop to address the challenges, and to be effective, engaged participants in their world.

This unit contributes to this by developing the following graduate capabilities:

1 Discipline Specific Knowledge and Skills
   a) Add to overall knowledge and understanding of the finance discipline
   b) Improve ability to partition and solve complex problems
   c) Improve speed and accuracy of manual and computer assisted calculations
   d) Improve skills in written presentation

2 Critical, Analytical and Integrative Thinking

3 Problem Solving and Research Capability
   a) Analyse stock price data and report the main findings
   b) Suggest whether the portfolio would withstand major shocks

4 Capable of Professional and Personal Judgement and Initiative

5 Commitment to Continuous Learning

**LEARNING AND TEACHING ACTIVITIES**

The teaching strategy in AFIN828 recognises that students learn independently and assume responsibility for the learning process and with academic integrity.

Students are expected to participate in the unit by attending lectures, reading the provided material, thoroughly revising the lecture notes and preparing answers to the provided exercise questions and reading additional material about important issues in investment and risk.
What we aim to achieve in AFIN828 is deep (as opposed to surface) learning. Thus, learning is interpreted as making sense or abstracting meaning. Learning involves relating parts of the subject matter to each other and to the real world. Further learning is understood as comprehending the world by understanding and re-interpreting knowledge.

The teaching philosophy is articulated as follows:

**Lectures – large group learning (3 hour each teaching week)**

Lectures are intended to provide an overview of conceptual frameworks and issues in applied finance that are critical to the core themes of the unit. Usually one hour of the lecture time will be spent on exercise questions.

**Independent learning – learning by doing (about 6 hours each teaching week and 9 hours each week during the 2-week mid-semester recess)**

AFIN828 relies heavily on independent learning where students read the textbook and other relevant material, revise the lecture notes, prepare answers to the provided exercise questions participate in the discussion board and extend themselves by doing additional reading, questions, exercises and problems.

Students are expected to research the current issues relating to the topics covered in this course. Students are encouraged to actively participate during discussion of assigned tutorial questions and read the lectures notes in advance.

Lecture 1 (February 28th)
Hull Chapter 1&2: Introduction, Risk and Return

Lecture 2 (March 6)
Hull Chapter 3&4: Portfolio Construction, Pension Plans, Mutual Funds and Hedge Funds

Lecture 3 (March 13)
Hull Chapter 5: Financial Instruments

Lecture 4 (March 20)
Hull Chapter 6: How traders manage their exposure

Lecture 5 (March 27)
Hull Chapter 7: Interest rate risk, Duration, Convexity

Lecture 6 (April 3)
Exchange Rates & Currency Risks

*Mid-Semester Break: Monday 9 April to Friday 20 April 2012*
Lecture 7 (April 24)
Hull Chapter 8&11: Value-at-Risk, Bank Regulation & Basel II

Lecture 8 (May 1)
Hull Chapter 9: Volatility, EWMA and GARCH models

Lecture 9 (May 8)
Hull Chapter 10: Correlations and Copulas

Lecture 10 (May 15)
Hull Chapter 12&13: Market Risk VaR: historical simulation and model building approach

Lecture 11 (May 22)
Hull Chapter 14&15: Credit Risk - Probabilities of Default (PD), Credit VaR

Lecture 12 (May 29)
Hull Chapter 16: Credit Derivatives and the Credit Crunch of 2007

Lecture 13 (Jun 5)
Hull Chapter 17&18: Stress Testing and Operational Risk Assignment Feedback and Revision Lecture

RESEARCH AND PRACTICE

- This unit uses research from external sources (Thomson Reuters Datastream, Bloomberg Data Services, Google Scholar and other library databases)
- This unit gives you practice in applying research findings in your assignments (In depth assignment investigating portfolio construction and performance measurement)
- This unit gives you opportunities to conduct your own research. Students can apply portfolio management skills in constructing their own risk return payoffs.

RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

The unit assessment will be on one class test, an assignment, class participation and a final examination.

The class test will be based on multiple choice questions. These questions may include calculations as well as “verbal” answers. The test is scheduled for April 28th, 2012 (Saturday) from 10 am to 11.30am.

The assignment will provide the opportunity for students to work on specified topics covering important concepts of investment or risk management. The topic and reading material will be provided in week 6, the due date will be May 22nd, 2012 (to be handed in before the start of the lecture). The assignment provides further opportunity for students to develop their critical analysis skills, problem-solving skills
and creative thinking skills. Please note that medical certificates in the week prior to the submission date will not be accepted as adequate reason to get an extension on the submission deadline. In addition you will get a mark as a group and if there are any issues within the group regarding lack of individual contribution then you have to notify me at an early stage of your assignment.

The **final examination** will comprise long-answer questions, and it will cover the entire semester. The date for the final examination will be announced within the first three weeks of the semester.

All assessment tasks further develop problem solving, knowledge on applied finance and communication skills.

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Students receive **weekly feedback** through the tutorial process. For this to be effective the student must have completed assigned readings and attempted the assigned homework BEFORE the corresponding tutorial. Further, it is important for the student to raise any issues of concern at the earliest tutorial opportunity.

- **Examinations**

A final examination is included as an assessment task for this unit to provide assurance that:

i) the product belongs to the student and

ii) the student has attained the knowledge and skills tested in the exam.

A 3 hour final examination for this unit will be held during the University Examination period.

The University Examination period in the First Half Year 2012 is from **Tuesday 12 June to 24th of June**.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

[http://exams.mq.edu.au/](http://exams.mq.edu.au/)

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. The University’s policy on special consideration process is available at [http://www.mq.edu.au/policy/docs/special_consideration/policy.html](http://www.mq.edu.au/policy/docs/special_consideration/policy.html)

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of
the official examination period. (Individual Faculties may wish to signal when the Faculties’ Supplementary Exams are normally scheduled.)

The Macquarie university examination policy details the principles and conduct of examinations at the University. The policy is available at: http://www.mq.edu.au/policy/docs/examination/policy.htm

ACADEMIC HONESTY

The nature of scholarly endeavour, dependent as it is on the work of others, binds all members of the University community to abide by the principles of academic honesty. Its fundamental principle is that all staff and students act with integrity in the creation, development, application and use of ideas and information. This means that:

- all academic work claimed as original is the work of the author making the claim
- all academic collaborations are acknowledged
- academic work is not falsified in any way
- when the ideas of others are used, these ideas are acknowledged appropriately.

Further information on the academic honesty can be found in the Macquarie University Academic Honesty Policy at http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

GRADES

Macquarie University uses the following grades in coursework units of study:

HD - High Distinction
D - Distinction
CR - Credit
P - Pass
F - Fail

Grade descriptors and other information concerning grading are contained in the Macquarie University Grading Policy which is available at: http://www.mq.edu.au/policy/docs/grading/policy.html

GRADING APPEALS AND FINAL EXAMINATION SCRIPT VIEWING

If, at the conclusion of the unit, you have performed below expectations, and are considering lodging an appeal of grade and/or viewing your final exam script please refer to the following website which provides information about these processes and the cut off dates in the first instance. Please read the instructions provided concerning what constitutes a valid grounds for appeal before appealing your grade. http://www.businessandeconomics.mq.edu.au/new_and_current_students/undergraduate_current_students/how_do_i/grade_appeals
SPECIAL CONSIDERATION

The University is committed to equity and fairness in all aspects of its learning and teaching. In stating this commitment, the University recognises that there may be circumstances where a student is prevented by unavoidable disruption from performing in accordance with their ability. A special consideration policy exists to support students who experience serious and unavoidable disruption such that they do not reach their usual demonstrated performance level. The policy is available at: http://www.mq.edu.au/policy/docs/special_consideration/policy.html

STUDENT SUPPORT SERVICES

Macquarie University provides a range of Academic Support Services. Details of these and other services for students can be accessed at http://www.student.mq.edu.au.

[Individual Unit Convenors may wish to add Unit/ Faculty specific support eg BESS, Room, PAL, E4B Consultation Room.]

IT CONDITIONS OF USE

Access to all student computing facilities within the Faculty of Business and Economics is restricted to authorised coursework for approved units. Student ID cards must be displayed in the locations provided at all times.

Students are expected to act responsibly when using University IT facilities. The following regulations apply to the use of computing facilities and online services:

● Accessing inappropriate web sites or downloading inappropriate material is not permitted. Material that is not related to coursework for approved units is deemed inappropriate.
● Downloading copyright material without permission from the copyright owner is illegal, and strictly prohibited. Students detected undertaking such activities will face disciplinary action, which may result in criminal proceedings.

Non-compliance with these conditions may result in disciplinary action without further notice.

Students must use their Macquarie University email addresses to communicate with staff as it is University policy that the University issued email account is used for official University communication.