ACST 315D, 871D, 871X
Investment Management

Semester 2, 2011

Department of Applied Finance and Actuarial Studies
Year and Semester: 2011, S2

Unit convenor: James McCulloch

Prerequisite: Formal ACST315 prerequisite is 48cp and Permission of Executive Dean of Faculty.

The Exec Dean approval is delegated to Department committees. In deciding whether to give this approval, our department committee is expected to apply the prerequisite that will apply to ACST404 next year. This is [ACST305 (P) or ACST306 (P)] and ACST355 (P) and ACST357 (P).

Credit points: 3

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 course is a specialist but introductory course in investments. As such you are not expected to emerge from it as an expert in any of the subject matter, nor as an expert in investments generally. You are expected, however, to have a healthy appreciation of the main streams of investment thought and practice, to be able to apply this knowledge and understanding to a variety of situations that a practising actuary might encounter and to be able to converse intelligently on matters of common interest with investment experts.

As you will have learned from actuarial units, investments at some level form part of all financial control systems. Some part of all life, general and health insurance premiums, superannuation contributions, energy utility rates etc have to be accumulated as reserves against current and future risks, to provide future benefits or to create capital for future investments in organisational capacity.

It is in this context that you should interpret the opening remarks above.

There are other courses for those students who wish to deepen their knowledge of investments and they will help you to attain “expert” status.

Like any course of study there are both theoretical and practical aspects to investments. Mathematics, statistics, economics, finance theory and models are the foundations on which the theory is built. They provide rigour and discipline. But assumptions are often required in developing this theory and reality, as you know, doesn’t always fit a model’s assumptions and some concepts cannot even be observed in the daily operating environment. For these reasons an understanding of how investment beliefs shape the search for return, how models can be applied or adapted in practice and how former approaches, conventions and rules-of-thumb assist in this are equally important, as are the limits to their application.

There are three essential elements in all investment theory and practice – return, risk and implementation – and good investment practitioners will have expertise in all three areas no matter on which part of the investment process they concentrate their efforts. These elements are fundamentally interrelated but are often studied or spoken of as if they exist in isolation. This is understandable given the context in which this happens but you should always have in the back of your mind the notion that any investment outcome depends on all three aspects coexisting in a mutually supportive way. This applies whether you are looking forward in building an investment solution or over the past in assessing how successful the solution has proven to be.
TEACHING STAFF

- **Dr James McCulloch** is the unit convenor and will be teaching lectures 1 to 9, from 6th August to October 15th - and the final revision lecture on November 12th. Contact email: James.McCulloch@mq.edu.au.

- **Professor Craig Ansley** will teach lectures 10 to 12 from October 22nd to November 5th. Contact email:

- **Hong Xie** is the teaching administrator for this unit. For all administrative enquiries, please contact him via private mail on Blackboard. Contact email: Hong.Xie@mq.edu.au

CONSULTATION

CONSULTATION TIMES

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 any 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).

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

Any alterations to the class times or locations will be advised in class and on the Blackboard.

Campus classes

Lectures for this unit will be held on Saturdays between 10am and 1pm in the Price Lecture Theatre, Building W5A, Macquarie University, North Ryde.

Distance education class

If you have enrolled for distance you will have access to all materials from the face to face classes (learning guides, lecture slides/overheads, handouts, exercises etc) and the same discussions and other activities via the ACST315/871 Blackboard.

The 2 hour lecture and 1 hour tutorial will be stored using iLecture software and will be available as a download from Blackboard.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

The required textbook (referred to here and elsewhere in this unit as BKM) is:

Zvi Bodie, Alex Kane & Alan Marcus
Investments, ISBN 9780073530703

This textbook is available from the Macquarie University Co-op Bookshop or for distance education students is available from on-line booksellers such as Amazon. The text is also available on 2 hour closed reserve in the Macquarie University Library. As additional and recommended texts, students may also consider purchasing:

Zvi Bodie, Alex Kane & Alan Marcus
Student Solutions Manual for Investments, ISBN 9780077316143

The solutions manual can be purchased from the Co-op bookshop together with the BKM text as a value pack. The following text on quantitative portfolio management is also recommended:

Richard Grinold and Ronald Kahn
Active Portfolio Management, ISBN 0070248826

Additional readings as PDF files will also be made available via the blackboard system.
UNIT WEB PAGE & TECHNOLOGY USED AND REQUIRED

All Students

The ACST315/871 website (using Blackboard) is integral to this course unit, whether you are a distance student or in a face to face class.

The Blackboard can be accessed via http://learn.mq.edu.au.

We will make announcements about unit administration and assessment tasks via the Blackboard. You should check the unit Announcements regularly, at least every couple of days.

We encourage active participation in the discussions on the Blackboard. You can ask questions about anything you don’t understand, and share your ideas about topics raised in class.

Before using the ACST315/871 website, please read the document called Security Policy and Rules Governing the Use of Computing and Communications Facilities at Macquarie University, which is available at http://www.ocs.mq.edu.au/POLICIES/mqrules.html

Distance Education Students

The 2 hour lecture and 1 hour tutorial will be stored using ILecture software and will be available as a download from Blackboard.

It is very important that distance students check the unit announcements regularly, at least every couple of days. In particular, towards the end of semester you should check for announcements on the final exam.
**TEACHING AND LEARNING STRATEGY**

**Important** – Students are expected to have completed the assigned reading and attempted the set problems BEFORE each lecture.

Each 3 hour session will consist of a 2 hour lecture followed by a 1 hour tutorial where the problems set for each lecture will be discussed.

**UNIT 1.1 - THE BEHAVIOUR AND CHARACTERISTICS OF INVESTMENTS (2 SESSIONS)**

**Learning Objectives**

Explain the behaviour of different investment types under different economic conditions, recognising risk factors, including issuer default, counterparty failure, systemic liquidity, the collapse of speculative bubbles, shocks to the system and cyclical/structural changes.

It is intended that this section include explicit definitions of the types of investments, which includes Shares (listed - foreign, domestic; unlisted); Property (listed; unlisted – commercial, residential, industrial); Bonds (fixed – government, corporate; floating; collateralised); Hybrids (convertible notes; preference shares; bespoke hybrids) etc.

**Lecture 1, 6th August 2011.**
**Topics:**
- Introduction to Financial Asset Types
- Asset Markets and Microstructure

**Reading:** BKM chapters 1, 2 & 3

**Problem Set Questions:**
- ch 1: 3, 6, 10 & 14
- ch 2: 1, 5, & 11
- ch 3: 2, 5, 10 & 14

**Lecture 2, 13th August 2011.**
**Topics:**
- Multi-Asset Funds
- Risk and Return

**Reading:** BKM chapters 4, 5

**Problem Set Questions:**
- ch 4: 2, 5, 14 & 25
- ch 5: 2, 6, 10
UNIT 1.2 - VALUATION OF INVESTMENTS (2 SESSIONS)

Learning Objectives

Develop an understanding of the methods used for valuation of the common forms of debt, equity, property and derivative investments. In particular students should be aware of:

- Valuation methods and principals
- Data requirements and sources
- The assumptions and limitations of the valuation models.

Topics:
  - Valuation of Debt Securities and Credit Risk

Reading:  BKM chapters 14, 15 & 16
Problem Set Questions:
  ch 14: 1, 16, 24 & 26
  ch 15: 1, 3, 5, 10 & 19
  ch 16: 2, 4, 15 & 23

Lecture 4, 27th August 2011.
Topics:
  - Valuation of Equities and Property
  - An Overview of Financial Market Derivatives
    A 1 Hour Test worth 5% of final assessment on all lecture material up to, and including, this lecture.

Reading:  BKM chapters 17, 18 & 23
Problem Set Questions:
  ch 17: 5, 11, 12 , 14, 15 & 16
  ch 18: 1, 6, 12, 14 & 20
  ch 23: 3, 6, 15 & 24
UNIT 1.3 – THEORIES OF CAPITAL MARKET BEHAVIOUR (2 SESSIONS)

Learning Objectives

Develop an understanding of the major economic and financial theories relevant to investment

- Capital Asset Pricing Model (CAPM)
- Multifactor Pricing Model
- The Efficient Market Hypothesis
- Behavioural Finance

Lecture 5, 3rd September 2011.
Topics:
- Optimal Risky Portfolios
- Single Index Models
- CAPM

Reading: BKM chapters 7, 8 & 9
Problem Set Questions:
ch 7: 2, 11, 17 & 18
ch 8: 1, 5, 7 & 16
ch 9: 3, 6, 9 & 21

Lecture 6, 10th September 2011.
Topics:
- APT and Factor Models
- The Efficient Market Hypothesis
- Behavioural Finance

Reading: BKM chapters 10, 11 & 12
Problem Set Questions:
ch 10: 2, 9, 11 & 19
ch 11: 7, 9, 17 & 28
ch 12: 2, 7, 8, 9, 12 & 25
UNIT 2.1 – PORTFOLIO CONSTRUCTION AND ASSET ALLOCATION (3 SESSIONS)

Learning Objectives

Construct, critically evaluate and apply asset models that are appropriate to the management of liabilities.

Lecture 7, 17th September 2011.
Topics:
Consistent Asset Returns and Reverse Optimization

Reading: See the Blackboard Directory for Readings
Problem Set Questions: See the Blackboard Directory for Lecture Questions

Lecture 8, 8th October 2011.
Topics:
Portfolio Performance
Transaction Costs
Active Portfolio Management

Reading: BKM chapters 24, 26 & 27
Problem Set Questions:
ch 24: 1, 5, 11, 17, 18 & 19
ch 25: 3, 7, 13, & 14
ch 26: 1 & 5

Lecture 9, 15th October 2011.
Topics:
Strategic Asset Allocation
Tactical Asset Allocation
Optimal Active Risk Budgeting
Optimal Portfolio Rebalancing with Transaction Costs

Reading: See the Blackboard Directory for Readings
Problem Set Questions: See the Blackboard Directory for Lecture Questions
UNIT 2.2 – ASSET AND LIABILITY MATCHING (3 SESSIONS)

Learning Objectives

(Lectures 10 to 12 to be completed by Professor Craig Ansley)

Lecture 10, 22nd October 2011.
Topics: To Be Announced (TBA)

Reading: TBA
Problem Set Questions: TBA

Lecture 11, 29th October 2011.
Topics: TBA

Reading: TBA
Problem Set Questions: TBA

Lecture 12, 05th November 2011.
Topics: TBA

Reading: TBA
Problem Set Questions: TBA

REVISION LECTURE

This will be a 3 hour tutorial based on all the preceding 12 lectures,

Lecture 13, 12th November 2011.

Reading: Revise the preceding 12 lectures
Problem Set Questions: Revise the questions for the preceding 12 lectures
In order to pass this unit, students must have satisfactory performance in both the assignment and the final exam. Exemptions from IAAust Part II requirements will also be determined after considering performance on both the coursework and the final exam in this unit and in the two Actuarial Control Cycle units.

**Extensions:** If you are unable to complete any assessment task on time, due to illness or other unavoidable disruption, please send a private mail message to Hong Xie via the Blackboard, explaining the circumstances. The lecturer in charge may decide to grant an extension. Work commitments would not normally be grounds for an extension.

**Late submissions:** Work which is submitted late will incur a penalty of 10% of the marks for each day (or part day) late.

**Examinations**

A 3 hour final examination for this unit will be held during the University Examination period. The University Examination period in Second Half Year 2011 is from November 14 to December 2.

Calculators will be allowed in the final examination but a clear indication of the steps involved in every calculation must be shown. Any machines that have a text retrieval capacity, specifically those with a full alphabet on the keyboard, are not allowed. Calculators may be checked at the commencement of the examination, and the make/model may be recorded.

Dictionaries are not permitted in the final examination, and no reference materials are allowed to be taken into the final examination.

You should ensure that your handwriting in the final examination is legible. If we can’t read your answer, then we can’t give you any marks.

### Unit Assessment

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<thead>
<tr>
<th>Task</th>
<th>Weighting</th>
<th>Due Dates</th>
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<tbody>
<tr>
<td>A 1 hour test will be conducted on August 27\textsuperscript{th}</td>
<td>0%</td>
<td>This test is compulsory for all students</td>
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<tr>
<td>Assignment</td>
<td>25%</td>
<td>Handed out August 27\textsuperscript{th} Due on October 8\textsuperscript{th}</td>
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<tr>
<td>Final Exam</td>
<td>75%</td>
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<tr>
<td>Total</td>
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Local (Sydney-based) students are expected to present themselves 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. See http://www.timetables.mq.edu.au/exam

**Distance students (outside Sydney) must contact Hong Xie to organize (and confirm) the location and supervision for the final examination. If these students do not confirm their exam city by the announced due date, there is a risk that their examination will not be organized.**

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

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.

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
GRADERS

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:

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/procedure.html

STUDENT SUPPORT SERVICES

Macquarie University provides a range of Academic Student Support Services. Details of these services 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.]
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 utilising 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 unit 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.