UNIVERSITI TEKNOLOGI MARA

ASC587: PORTFOLIO AND INVESTMENT ANALYSIS

Course Name (English)	PORTFOLIO AND INVESTMENT ANALYSIS APPROVED
Course Code	ASC587

MQF Credit	4

Course Description	The course introduces students to modern portfolio theory (capital asset pricing models and arbitrage pricing models). This involves the theory and practice of optimally combining securities into portfolios, and efforts involving simplification of the amount and type of inputs to the portfolio problem as well as simplification of the computational procedure to find sets of desirable portfolios. The course also provides a discussion of equilibrium in the capital markets and shows how portfolio theory can be used to infer what equilibrium returns and prices will be for individual securities. Finally, the course suggests ways that equilibrium theory can be used to manage portfolios more meaningfully. This course follows the syllabus of CM2 from IFoA.

Transferable Skills	Demonstrate ability to apply creative, imaginative and innovative thinking and ideas to problem solving. Demonstrate ability to investigate problems and provide effective solutions. Demonstrate ability to analyse issues/problems from multiple angles and make suggestions

Teaching Methodologies	Lectures

CLO	CLO1 Describe concepts and methods to solve problems related to portfolio and investment analysis CLO2 Interpret and use problem-solving techniques in relation to portfolio and investment analysis CLO3 Demonstrate lifelong learning skills related to portfolio and investment analysis

Pre-Requisite Courses	No course recommendations

Topics
1. MEAN-VARIANCE PORTFOLIO THEORY 1.1) The characteristics of the opportunity set under risk. 1.2) Delineating efficient portfolios. 1.3) Techniques for calculating efficient frontiers.
2. SIMPLIFYING THE PORTFOLIO SELECTION PROCESS 2.1) The correlation structure of the security returns - the single index model. 2.2) The correlation structure of the security returns - the multi index model and grouping techniques. 2.3) Simple techniques for determining the efficient frontier.
3. SELECTING THE OPTIMUM PORTFOLIO 3.1) Estimating expected returns. 3.2) How to select among the portfolios in the opportunity set.
4. WIDENING THE SELECTION UNIVERSE 4.1) The standard and non standard forms of Capital Asset Pricing Model. 4.2) Empirical tests of equilibrium models. 4.3) The arbitrage pricing model APT - A multi-factor approach to explaining asset prices. 4.4) Efficient markets. 4.5) Modelling stock prices with various models. 4.6) Models for the term structure of interest rates.

Assessment Breakdown	%
Continuous Assessment	30.00%
Final Assessment	70.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Individual assignment CLO3 5%	5%	CLO3
Quiz	Quiz 2 CLO2 2%	2%	CLO2
Quiz	Quiz 1 CLO1 3%	3%	CLO1
Test	Test 1 CLO1 10%	10%	CLO1
Test	Test 2 CLO2 10%	10%	CLO2

Reading List

Recommended Text

- **Elton, E. J.; Gruber, M. J.; Brown, S. J. et al. 2014, *Modern portfolio theory and investment analysis*, 9 Ed., John Wiley USA**

Reference Book Resources

- **Weishaus, A 2018, *Study Manual for Exam IFM. Exam IFM: Investment and Financial Market*, 1 Ed., ASM USA**
- **Wilmott, P. 2007, *Paul Wilmott introduces quantitative finance*, 1 Ed., John Wiley & Sons USA**
- **Capiski, M. J., & Kopp, E. 2014, *Portfolio theory and risk management*, 5 Ed., Cambridge University Press. UK**
- **Cambridge University Press. 2010, *Asset pricing and portfolio choice theory*, 1 Ed., Oxford University Press UK**
- **B Pfaff 2016, *Financial risk modelling and portfolio optimization with R*, 2 Ed., Wiley**
- **AJ McNeil, R Frey, P Embrechts 2015, *Quantitative risk management: concepts, techniques and tools-revised edition*, 2 Ed., Princeton University Press**
- **P Chandra 2017, *Investment analysis and portfolio management*, 5 Ed., McGraw-Hill Education.**
- **N Thompson 2016, *Portfolio theory and the demand for money*, 1 Ed., Springer**

Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources