Quantitative Methods for Finance

Module Information

2022.01, Approved

Summary Information

Module Code	7001FIMMSC
Formal Module Title	Quantitative Methods for Finance
Owning School	Business and Management
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Business and Management

Learning Methods

Learning Method Type	Hours
Lecture	12
Workshop	24

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-MTP	MTP	September	12 Weeks

Aims and Outcomes

Aims	This module aims to equip students with the necessary foundations in mathematics and statistics to successfully study other modules of the MSc Financial Management by providing students with mathematical and statistical underpinning for the study of Financial Management. It will enable the use of appropriate software for mathematics of Financial Management and statistical analysis necessary for research and research analysis.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Construct, analyse and solve mathematical and statistical models for finance using manual calculation and excel.
MLO2	2	Use appropriate software to produce descriptive and summary statistics.
MLO3	3	Use appropriate software to conduct basic statistical tests for differences in means and analysis of variance.
MLO4	4	Use appropriate software for multiple regression analysis and correctly determine the diagnostic statistic for testing for heteroskedasticity and auto-correlation.
MLO5	5	Write suitable reports based on statistical information and/or the statistical analysis of financial information.
MLO6	6	Interpret and critically evaluate statistical and/or mathematical models used in specialist publications.

Module Content

Outline Syllabus	Matrices - operations, vectors, scalars, determinants, Cramer's rule.Differentiation - rules, partial and unconstrained optimization, Lagrange multipliers.Financial mathematics - compounding, discounting, net present value, internal rate of return, annuities, bonds.Statistics - descriptive statistics, probability distributions, hypothesis testing.Regression - bivariate, multivariate, heteroscedasticity diagnostics, auto-correlation.Relevant research tools/software.
Module Overview	
Additional Information	This module will cover the necessary mathematical and statistical skills used in other modules of the MSc Financial Management programme and in the associated literature. It will also provide students with a range of quantitative techniques useful for the dissertation module.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Report	40	0	MLO1, MLO5, MLO6
Centralised Exam	Closed book Examination	60	3	MLO1, MLO2, MLO3, MLO4, MLO5

Module Contacts