

Quantitative Methods in Finance

Module Code:	AFE7020-A
Academic Year:	2018-19
Credit Rating:	10
School:	School of Management
Subject Area:	Accounting, Finance and Economics
FHEQ Level:	FHEQ Level 7 (Masters)

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	12
Tutorials	12
Directed Study	74.5
Examinations DO NOT USE	1.5

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Full Year (Sept - Aug)
BDA	University of Bradford / Semester 1 (Sep - Jan)

Module Aims

This module provides you with the conceptual understanding and core technical skills in the fields of mathematics, econometrics and statistics that enable you to pursue advanced specialist study in finance. The module provides you with the applied skills, including statistical computing skills, which would be useful for future roles as finance professionals.

Outline Syllabus

Interest rates and asset returns;
Presentation of data and descriptive statistics;

Probability distributions: Applications to asset returns;
Non-normality and non-stationarity in asset returns;
Statistical inference: Confidence intervals and hypothesis testing;
Regression analysis; Deviations from the Classical Linear Regression Model;
Time-series analysis; Unit Roots and Stationarity in Time Series;
Calculus applied to finance;

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1
 - 1.1 present and interpret statistical summaries of financial and other data series
 - 1.2 understand the statistical assumptions that lie behind theoretical financial and econometric models and
 - 1.3 solve a number of advanced problems in financial mathematics.
- 2
 - 2.1 Calculate the statistical moments of a financial dataset and identify whether or not it is normally distributed and / or stationary
 - 2.2 Run and interpret ordinary least squares based regression analysis
 - 2.3 Critically appraise, analyse and make use of a variety of financial and econometric data in order to aid decision making in business and financial organisations and
 - 2.4 Be able to understand and apply the mathematics behind basic finance theory.
- 3
 - 3.1 Demonstrate further development of numerical, analytical and teamwork skills.
 - 3.2 Plan and time manage own applied and theoretical learning.
 - 3.3 Effectively define problems, engage in and evaluate decision making, and use appropriate verbal and written communication skills.

Learning, Teaching and Assessment Strategy

Lectures, seminars and statistical computing sessions provide you with basic theory, knowledge of statistical computing techniques, and live demonstrations which are essential for gaining key discipline skills. These methods allow you to relate classroom-based financial analysis to the `real life` decision making context faced by professionals in business and finance. Weekly tutorials and seminar sessions provide you the opportunity to apply your theoretical and conceptual knowledge to an applied context, and enable you to test your understanding of formal concepts. Tutorials also aid reflection, as well as critical evaluation of technical and econometric methods employed by practitioners in finance. Directed study (including completion of practice exercises using statistical software), personal reading and group coursework enhances personal transferable skills. Assessment includes group coursework and an unseen, closed-book examination. The group coursework assists you in realising the following learning outcomes (see above): 1.1, 1.2, 2.2, 2.3, 2.4 and 3.1-3.3. The examination addresses the following learning outcomes: 1.2, 2.3, 2.4, 3.2 and 3.3.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - closed book	Closed book examination	1.5 hours	70%	Yes
Summative	Coursework	Group coursework (2500 words); Supplementary assessment: Individual assignment (1000 words)	0-2500 words	30%	No

Legacy Code (if applicable)

MAN4265M

Reading List

To view Reading List, please go to [rebus:list](#).