

| Module Details | |
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| Module Title | Quantitative Methods in Finance |
| Module Code | AFE7501-B |
| Academic Year | 2024/5 |
| Credits | 20 |
| School | School of Management |
| FHEQ Level | FHEQ Level 7 |

| Contact Hours | |
|----------------|-------|
| Type | Hours |
| Lectures | 24 |
| Tutorials | 12 |
| Directed Study | 164 |

| Availability | |
|--------------|-------------------------------------|
| Occurrence | Location / Period |
| BDA | University of Bradford / Semester 1 |

| Module Aims |
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| <p>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. It also introduces fundamental concepts in finance and investment.</p> |

| Outline Syllabus |
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| <p>The module will cover topics such as:</p> <ul style="list-style-type: none"> Valuing bonds and shares; valuation of companies and market efficiency Fundamentals of capital budgeting; Risk and cost of capital Interest rates and asset returns; Applications to 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; Capital Market Imperfections and Investment Corporate Governance |

| Learning Outcomes | |
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| Outcome Number | Description |
| 01 | 1.1 Present and interpret statistical summaries of financial and other data series and understand the statistical assumptions that lie behind theoretical financial and econometric models. 1.2 Demonstrate a comprehensive understanding of the concepts and frameworks in finance and investment; apply appropriate financial models and techniques to assist financial decision making. 1.3 Solve applied problems in financial mathematics, with a practical decision making context. |
| 02 | 2.1 Carry out statistical analysis 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. 2.4 Be able to understand and apply the mathematics behind basic finance theory. |
| 03 | 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 |
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| <p>Lectures 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 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 will be used to reinforce the taught component and formative assessments will allow for monitoring progress. These will be supplemented by web-based learning and self-directed learning to support each topic will take place within the directed study time. Formative feedback is provided in the tutorials and lectures. 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) and personal reading enhances personal transferable skills. The assessment is an exam that assists you in realising the following learning outcomes 1.1-1.3, 2.1-2.4 and 3.1-3.3.</p> <p>The assessment is an individual coursework assignment that assists you in realising the following learning outcomes 1.1-1.3, 2.1-2.4 and 3.1-3.3.</p> |

| Mode of Assessment | | | |
|--------------------|---------------------------|-------------------------------------|-----------|
| Type | Method | Description | Weighting |
| Summative | Examination - Closed Book | Examination - Closed Book (2 hours) | 100% |

| Reading List |
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| To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html |

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

