## Course Details

<table>
<thead>
<tr>
<th>Course Code</th>
<th>F71AR</th>
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<tbody>
<tr>
<td>Full Course Title</td>
<td>Applied Risk Management</td>
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<tr>
<td>SCQF Level</td>
<td>11</td>
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<tr>
<td>SCAF Credits</td>
<td>15</td>
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<tr>
<td>Available as Elective</td>
<td>No</td>
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## Delivery Level

<table>
<thead>
<tr>
<th>Undergraduate</th>
<th>No</th>
<th>Postgraduate Taught</th>
<th>Yes</th>
<th>Postgraduate Research</th>
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## Additional Information:

### Course Aims

- To equip students with a variety of tools to tackle problems involving univariate financial time series
- To provide a good grounding in the best practice of risk management within an organisation
- To understand economic measures of capital and capital allocation
- To have a thorough understanding of operational risk in its various forms
- To identify and measure risks and then to take actions to mitigate risks and exploit risky opportunities through good risk management strategies.

### Learning Outcomes – Subject Mastery

On completion of this course the student should be able to:
• Analyse a variety of financial time series
• Demonstrate a good understanding of the different types of operational risks that might arise in an organisation, and be able to identify potential operational risks in a given scenario
• Use quantitative and qualitative methods for identifying and analysing operational risk
• Demonstrate an understanding of the main international guidelines on good risk management practice and good governance
• Understand how a ratings agency assess risk management practice and use this to improve risk management practice in an organisation
• Show how to measure the economic value of a risky venture and how this can be used to influence decision making
• Understand the different methods for how to allocate capital within an organization and apply these methods in a variety of situations
• Demonstrate how to establish at Board level an organisation's risk appetite, risk objectives and risk tolerances
• Show to optimize risk and opportunities given Board-level constraints on risk appetite and risk tolerances
• Determine an organisation's overall risk exposure
• Show an understanding of the importance of asset-liability modeling for a financial institution
• Analyse real and hypothetical case studies of good and bad risk management practice
• Analyse real and hypothetical scenarios from the perspective of different stakeholders

• Develop and recommend strategies for active management of risks using a variety of methods
  o Recommend risk mitigation strategies by transfer of risk
  o Develop strategies for management and mitigation of credit risk
  o Recommend risk reduction strategies without transferring risk to an external agency
  o Demonstrate an understanding of the pros and cons of the different approaches to risk mitigation
  o Show an understanding of modern methods for management of interest-rate risk

LEARNING OUTCOMES – PERSONAL ABILITIES

• Show an appreciation of the interface between academic theory and industrial practice
• Demonstrate the ability to learn independently and as part of a group
• Manage time, work to deadlines and prioritise workloads
• Present results in a way that demonstrates that they have understood the technical and broader issues of financial risk management
• Show an appreciation of the societal role of risk management in protecting the consumer and other stakeholders
SYLLABUS

• Operational risk management
  o Non-quantitative and quantitative methods and tools for managing operational risk
  o Different ways of quantifying operational risk under Basel II

• Banking and insurance regulatory systems

• Risk management governance and culture
  o Risk management governance structures and the risk management culture
  o Governance issues including agency, audit and legal risk
  o Rating agency assessments of an organisation's risk management operation

• ERM frameworks and assessment

• Risk appetite and risk tolerance

• Economic capital and capital allocation

• Credit risk management

• Modelling and assessment of market risk
  o Models for volatility clustering
  o Non-normality, fat tails and skewness
  o Assessment of value at risk
  o Backtesting VaR models
F71AR Applied Risk Management

- **Market risk management**
  - Dynamic versus static hedging using financial derivatives; practical considerations

- **Interest rate risk management**
  - Modern approaches to immunisation of interest-rate risk
  - Asset-liability modelling

- **How risks and risky opportunities affect the selection of strategy**

- **Advantages and disadvantages of different approaches to risk reduction; e.g. costs and benefits; information asymmetry; transparency; liquidity; basis risk; moral hazard**

- **Optimising risks and opportunities relative to the Board’s declared risk appetite and risk tolerances**

- **Case studies: examples of past disasters and examples of good practice**
  - Risk analysis of real and hypothetical scenarios including non-quantifiable risks; views of different stakeholders

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<thead>
<tr>
<th>COURSE RELATIONSHIPS</th>
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<th>LOCATION AND ASSESSMENT METHODS</th>
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