## COURSE DETAILS

**Course Code:** F71AF  
**Full Course Title:** Life Insurance Mathematics 1  
**SCQF Level:** 11  
**SCAF Credits:** 15  
**Available as Elective:** No

## DELIVERY LEVEL

<table>
<thead>
<tr>
<th>Undergraduate:</th>
<th>Yes</th>
<th>Postgraduate Taught:</th>
<th>Yes</th>
<th>Postgraduate Research:</th>
<th>No</th>
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## COURSE AIMS

This module aims to provide postgraduate students with a good knowledge of survival models, life tables and first and second moments of the present values of payment streams contingent on survival or death. This knowledge is then applied to the calculation of premiums and reserves for life insurance contracts.

## LEARNING OUTCOMES – SUBJECT MASTERY

On completion of this module the student should be able to:

- Demonstrate an understanding of survival models
- Demonstrate a knowledge of methods for the calculation of the moments of the present values of payment streams contingent on survival or death
- Demonstrate a knowledge of methods for the calculation of premiums and reserves for life insurance policies

## LEARNING OUTCOMES – PERSONAL ABILITIES

At the end of the module students should be able to:
F71AF Life Insurance Mathematics 1

- Demonstrate the ability to learn independently
- Manage time, work to deadlines and prioritise workloads
- Perform numerical calculations using a suitable computer package, or other available tools
- Present results in a way which indicates that they have understood the concepts involved

SYLLABUS

- Survival models
- Select survival models
- Life tables
- Annuities and assurances
- Premiums
- Expenses
- With profits policies and bonuses
- Reserves
- Thiele's differential equation
- Calculation of annual profit/loss
- Policy alterations

COURSE RELATIONSHIPS

N/A

LOCATION AND ASSESSMENT METHODS

<table>
<thead>
<tr>
<th>Edi</th>
<th>SBC</th>
<th>Ork</th>
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<td>Y</td>
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Coursework will be at least 20% and no more than 40%.

| Y   |     |     |     |       |     |      |     |     |        |        |           |          |          |               |

Examination will be at least 60% and no more than 80%.

| Y   |     |     |     |       |     |      |     |     |        |        |           |          |          |               |

Re-assessment in the next academic year.