ST334-15 Actuarial Methods

20/21

Department
Statistics
Level
Undergraduate Level 3
Module leader
Vicky Henderson
Credit value
15
Module duration
10 weeks
Assessment
Multiple
Study location
University of Warwick main campus, Coventry

Description

Introductory description

This module runs in Term 1 and is available for students on a course where it is a listed option and as an Unusual Option to students who have completed the prerequisite modules.

Results from this module may be partly used to determine exemption eligibility in the Institute and Faculty of Actuaries module CM1. (Independent application with the IFoA may be required to receive the exemption.)

Pre-requisites:
Statistics Students: ST218 Mathematical Statistics A AND ST219 Mathematical Statistics B
Non-Statistics Students: ST220 Introduction to Mathematical Statistics

Module web page

Module aims

To cover part of the syllabus for CM1 Actuarial Mathematics.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Interest rates and discount rates.
Equations of value and compound interest calculations.
Discounted cash flow.
Types of investment.
Concept of arbitrage.
Introduction to the term structure of interest rates.
Stochastic interest rate models.

Learning outcomes

By the end of the module, students should be able to:

- be familiar with basic financial terminology and be able to understand the financial press.
- be able to carry out basic financial calculations.
- understand the basics of life tables

Indicative reading list

View reading list on Talis Aspire

Subject specific skills

TBC

Transferable skills

TBC

Study

Study time

Type	Required
Lectures	17 sessions of 1 hour (11%)
Private study	103 hours (69%)
Assessment	30 hours (20%)
Total	150 hours

Private study description

Weekly revision of lecture notes and materials, wider reading of actuarial syllabus, practice exercises and preparing for class tests and the examination.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group D1

	Weighting	Study time
Computer Based Assessment 1	10%	15 hours
Multiple choice quiz which will take place during the term that the module is delivered.		
Computer Based Assessment 2	10%	15 hours
Multiple choice quiz which will take place during the term that the module is delivered.		
Online Examination	80%	
You will be required to answer all questions on this examination paper.		

~Platforms - Moodle

- Online examination: No Answerbook required
- Students may use a calculator
- Cambridge Statistical Tables (blue)
- Formulae & Tables for Examinations (Inst of Actuaries 2002) GOLD HARDBACK BOOK

Assessment group R

	Weighting	Study time
Online Examination - Resit	100%	
You will be required to answer all questions on this examination paper.		

~Platforms - Moodle

- Answerbook Pink (12 page)
- Actuarial Tables
- Actuarial Tables for ST3340
- Students may use a calculator

Feedback on assessment

As individualised feedback is difficult to arrange for larger modules with more than 30 registered students, model solutions should be provided online within 24 hours of the test and augmented by cohort level feedback within the usual deadlines

Your paper will not be returned as it must be retained for the external examiners but you may make an appointment with the module leader to view your script and receive individual feedback on the first two class tests.

Solutions and cohort level feedback will be provided for the January examination and provisional results will be available by week 10 of term 2.

Past exam papers for ST334

Availability

Courses

This module is Optional for:

- UCSA-G4G1 Undergraduate Discrete Mathematics
  - Year 3 of G4G1 Discrete Mathematics
  - Year 3 of G4G1 Discrete Mathematics
- USTA-G300 Undergraduate Master of Mathematics,Operational Research,Statistics and Economics
  - Year 3 of G300 Mathematics, Operational Research, Statistics and Economics
  - Year 4 of G300 Mathematics, Operational Research, Statistics and Economics
- USTA-G1G3 Undergraduate Mathematics and Statistics (BSc MMathStat)
  - Year 3 of G1G3 Mathematics and Statistics (BSc MMathStat)
  - Year 4 of G1G3 Mathematics and Statistics (BSc MMathStat)
- Year 4 of USTA-G1G4 Undergraduate Mathematics and Statistics (BSc MMathStat) (with Intercalated Year)

This module is Option list A for:

- Year 3 of USTA-G300 Undergraduate Master of Mathematics,Operational Research,Statistics and Economics
- USTA-G301 Undergraduate Master of Mathematics,Operational Research,Statistics and Economics (with Intercalated
  - Year 3 of G30E Master of Maths, Op.Res, Stats & Economics (Actuarial and Financial Mathematics Stream) Int
  - Year 4 of G30E Master of Maths, Op.Res, Stats & Economics (Actuarial and Financial Mathematics Stream) Int

This module is Option list B for:

- USTA-Y602 Undergraduate Mathematics,Operational Research,Statistics and Economics
  - Year 3 of Y602 Mathematics,Operational Research,Stats,Economics

- Year 3 of Y602 Mathematics,Operational Research,Stats,Economics