BSc (Hons) Actuarial Studies (F/T) - SH 309

1. Context and Objectives

The programme is intended to provide students with the necessary skills to start a career in the insurance and risk assessment industries. Above all, it provides the students the necessary background to be able to pursue further studies in the actuarial field. Businesses as well as individuals confront hazards on a daily basis. Actuarial science provides the insurance business with the tools to develop products that afford protection from such hazards. It also provides Governments with insight into the impact of changing demography on the cost of social protection. It draws upon a variety of disciplines such as statistics, economics, finance and information technology.

The BSc (Hons) Actuarial Studies allows students who have scored beyond a certain threshold to secure exemptions for professional papers of the Institute and Faculty of Actuaries (IFoA) Examinations. The list of accreditation by subject agreements (ASAs) secured by the University of Mauritius may be consulted on the IFoA website: https://www.actuaries.org.uk/studying/exam-exemptions/how-apply-exemption/university-courses-exemptions/university-mauritius.

2. Learning Outcomes

On completion of the programme, students should be able to:

- Conduct Exploratory Data Analyses using appropriate statistical techniques, including descriptive statistics and graphical illustrations;
- Explain and apply analytical and quantitative methods to define and solve problems in various areas – life and general insurance, finance, economics, investment, and demography;
- Formulate models to describe actuarial and financial risks, apply these models to problems in the real world and reflect critically on model assumptions and limitations;
- Make use of computer packages such as Excel, VBA and R in the application of models to problems in the real world;
- Describe how companies are governed and structured, analyse published accounts, produce management information and suggest appropriate ways to finance a company;
- Discuss the theories on the behaviour of financial markets and, the links between economic theory and its application in business.

3. Teaching and Learning Methods

Modules shall be taught over 10 weeks and shall include 3 hours of contact per week, involve 6 hours of self-study per week and 9 hours of other learning activities per week for each semester. The 30 hours of contact shall include class hours, tutorials and practicals.

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Details of the teaching and learning methods:

As far as possible, a blended approach will be used. These might include among others: face to face lectures, e-learning (moodle), problem based learning, case studies, document analysis, practical lab sessions (where applicable), assignments, seminars, tutorials, computer based simulations, open learning materials, textbooks and independent study as well as collaborative learning.

4. Entry Requirements

- ***General Requirements***

  In accordance with the University General Entry Requirements for admission to undergraduate degree Programmes.

- ***Programme Requirements***

  Minimum of 3 'A' levels with grade A in Mathematics and at least grade B in any 2 other subjects.

5. Programme Duration

	Normal	Maximum
Degree	3 Years	5 Years

6. Minimum LCCS Credits required for Degree Award - 206

- ***Breakdown as follows for Degree Award:***

Core	Electives	Dissertation
180	6	20

Modules	LCCS Credits
Core	
STAT	126
ECON	36
DFA	12
MGT	6
Dissertation	20
Electives	6
Total	**206**

- ***For each Academic Year***

Year	LCCS Credits
1	66
2	72
3	68
Total	**206**

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7. Assessment and Deadlines

Each module will be assessed over 100 marks with details as follows (unless otherwise specified):

Assessment will be based on a written examination of 2 to 3 hours. Written examinations for all modules, except for some semester modules, whether taught in semester 1 or in semester 2 or both, will be carried out at the end of the academic year (unless stated otherwise).

The continuous assessment will count for 40 – 50% of the overall percentage mark of the modules. The written examination will count for 50 – 60% of the overall percentage mark of the modules.

Continuous assessment may be based on seminars and/or assignments and should include at least two (2) assignments/tests per module. There will be a compulsory class test for all modules taught in semester 1 at the end of semester 1 of the given academic year unless stated otherwise in the Programme Structure.

An overall total of 40% for combined continuous assessment and written examination components would be required to pass the module, without minimum thresholds within the individual continuous assessment and written examination. The same criterion will apply for modules being assessed jointly. Note that an overall mark for the two modules will be considered and not the individual marks for each of the two modules.

All students should keep a portfolio of all coursework for their respective programme of studies and same should be made available upon request, to the Faculty/Centre Examination Office. In case students fail to submit the Portfolio to the External Examiners through the Faculty/Centre Examination Office, a penalty of 10% on all Continuous Assessment marks obtained shall apply.

- ***Submission Deadline for Dissertation***

Final copy: Last Working day of March of the Academic Year by 4.00 p.m at latest.

Submission: Three copies of the dissertation (two spiral-bound copies and one soft copy in a single PDF text file on electronic storage media) should be submitted to the Faculty/Centre Registry and in addition, a soft copy of the dissertation in a single PDF text file should be uploaded on the 'Turnitin' Platform, in the final assignment submission link indicated by the Programme/Project Coordinator.

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8. List of Modules – BSc (Hons) Actuarial Studies

Code	Module Name	Hrs/Wk L+P	LCCS Credits
CORE			
DFA 1003Y(1)	Business Finance and Reporting	3 + 0	12
ECON 1030Y(1)	Economics for Business	3 + 0	12
STAT 1105(1)	Introduction to Actuarial Science	3 + 0	6
STAT 1010Y(1)	Mathematics for Actuarial Science	3 + 0	12
ECON 1201(1)	Financial Economics	3 + 0	6
MGT 1103(1)	Actuarial Business Management	3 + 0	6
STAT 1011Y(1)	Statistical Methods	3 + 0	12
STAT 2009Y(3)	Probability and Statistical Inference	3 + 0	12
STAT 2002Y(3)	Statistical Models	3 + 0	12
STAT 2107(3)	Bayesian Inference and Credibility Theory	3 + 0	6
STAT 2011Y(3)	Stochastic Processes and Survival Models	3 + 0	12
STAT 2010Y(3)	Time Series Analysis and Risk Modelling	3 + 0	12
STAT 2205(3)	Data Mining for Actuarial Science	3 + 0	6
ECON 2108(3)	Actuarial Finance	3 + 0	6
STAT 3018Y(5)	Actuarial Models	3 + 0	12
ECON 3020Y(5)	Advanced Financial Economics	3 + 0	12
STAT 3021Y(5)	Contingencies	3 + 0	12
STAT 3104(3)	Financial Mathematics	3 + 0	6
STAT 3105(3)	Liability Valuations	3 + 0	6
STAT 3000Y(5)	Dissertation		20
ELECTIVES			
ECON 2109(3)	International Financial Markets and Environment	3 + 0	6
COMS 2103(3)	Communication Skills for Actuaries	3 + 0	6
ECON 2110(3)	Applied Econometrics for Business	3 + 0	6
STAT 3102(5)	Sample Design and Survey methods	3 + 0	6
STAT 3106(5)	Demographic Methods	3 + 0	6

Note 1: Offering of electives would be subject to availability of resources and critical mass. The Department reserves the right to offer additional electives.

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9. Programme Plan – BSc (Hons) Actuarial Studies

YEAR 1

Code CORE	Module Name	Hrs/Wk L+P	LCCS Credits
DFA 1003Y(1)	Business Finance and Reporting	3 + 0	12
ECON 1030Y(1)	Economics for Business	3 + 0	12
STAT 1105(1)	Introduction to Actuarial Science[1]	3 + 0	6
STAT 1010Y(1)	Mathematics for Actuarial Science	3 + 0	12
ECON 1201(1)	Financial Economics[2]	3 + 0	6
MGT 1103(1)	Actuarial Business Management[1]	3 + 0	6
STAT 1011Y(1)	Statistical Methods	3 + 0	12
		Sub Total	**66**

YEAR 2

Code CORE	Module Name	Hrs/Wk L+P	LCCS Credits
STAT 2009Y(3)	Probability and Statistical Inference	3 + 0	12
STAT 2002Y(3)	Statistical Models	3 + 0	12
STAT 2107(3)	Bayesian Inference and Credibility Theory[1]	3 + 0	6
STAT 2011Y(3)	Stochastic Processes and Survival Models	3 + 0	12
STAT 2010Y(3)	Time Series Analysis and Risk Modelling	3 + 0	12
STAT 2205(3)	Data Mining for Actuarial Science[2]	3 + 0	6
ECON 2108(3)	Actuarial Finance[1]	3 + 0	6
ELECTIVES: Choose ONE from:			
COMS 2103(3)	Communication Skills for Actuaries[1]	3 + 0	6
ECON 2109(3)	International Financial Markets and Environment[1]	3 + 0	6
ECON 2110(3)	Applied Econometrics for Business[1]	3 + 0	6
STAT 3102(5)	Sample Design and Survey Methods[1]	3 + 0	6
STAT 3106(5)	Demographic Methods[1]	3 + 0	6
		Sub Total	**72**

YEAR 3

Code CORE	Module Name	Hrs/Wk L+P	LCCS Credits
STAT 3018Y(5)	Actuarial Models	3 + 0	12
STAT 3104(3)	Financial Mathematics[1]	3 + 0	6
STAT 3105(3)	Liability Valuations[1]	3 + 0	6
ECON 3020Y(5)	Advanced Financial Economics	3 + 0	12
STAT 3021Y(5)	Contingencies	3 + 0	12
STAT 3000Y(5)	Dissertation		20
		Sub Total	**68**
		Grand TOTAL	**206**

[1] – Modules taught in Semester 1 and examined in Semester 1
2– Modules taught in Semester 2 and examined in Semester 2

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