

BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE (BSAS)

Introduction

Actuarial Science is a study of Insurance, Statistics or Mathematics. The subject is about applying mathematical, statistical and economic models to study and calculate risks associated with insurance, pensions and other financial systems. The knowledge of Actuarial Science also enables one to interpret the economic environment and make informed decisions on future inflation, returns on investment, stock market behaviour, exchange rates and economic growth.

Objectives

Overall objective

The programme seeks to improve the quality of personnel working in financial and insurance sectors.

Specific objectives

- To train professionals in Actuarial Science to work in many financial and insurance institutions in Uganda and East Africa as a whole.
- To provide a strong background to people who are interested in the Actuarial career.
- To meet the existing demand of financial and insurance institutions for actuaries in East Africa.
- To upgrade the skills of those in the financial and insurance industry.

Entry into Second Year

Entry into second year of the programme requires a special resolution of the Institute Board of Studies and Senate. The Board of Studies may evaluate the courses done by individual candidates and work out appropriate credit transfers which shall not exceed 40% of the minimum degree credit units.

Programme Duration

The Bachelor of Science in Actuarial Science degree programme shall run over a minimum period of three years. Each year shall consist of two semesters.

Length of Semester

A semester shall be 17 weeks – 15 weeks for teaching and 2 weeks for examinations.

Types of Courses

Courses in the programme shall be classified as follows:

- (a) A core course – one that must be registered for and passed by a student to obtain a degree.
- (b) An elective course – one that must be taken to make up the minimum requirements of the degree.
- (c) An audited course – one that a student attends but is not examined in.
- (d) A prerequisite course – is one that must be taken before a related higher level course and in which a student needs to score at least 40 percent before moving to the next level.

Course Credits

Instruction shall be by courses quantified into course credit units.

- (a) A credit unit is granted for a series of fifteen contact hours or one contact hour per week per semester.
- (b) A contact hour is calculated as being equivalent to:
 - one lecture hour **or**
 - one tutorial hour **or**
 - two practical hours **or**
- (c) No course shall carry less than one credit unit.

Full Time Study

A full time student on the B.Sc in Actuarial Science degree programme shall not carry less than 15 credit units in a semester and not more than 25 credit units per semester.

Curriculum

The Programme shall consist of 42 courses, one research project and a professional training attachment. All courses will be core.

Programme Structure

In the first year it is essential to provide a firm foundation for subsequent study. Since actuaries need to be able to apply a wide range of mathematical and statistical techniques, most of the first year units are mathematics and statistics courses. Details of the programme structure are specified below.

Year I: Semester I		CU
ECO 1101	Introductory Micro Economics	3
SAS 1101	Principles of Development	3
MTH 1101	Calculus I	3
MTH 1102	Linear Algebra I	3
STA 1101	Descriptive Statistics	3
STA 1102	Official Statistics	
STA 1103	Time Series & Index Numbers	3
STA 1105	Introduction to ICT	3
Semester II		
ECO 1202	Introductory Macro Economics	3
ECO 1201	Principles of Development Economics	3
MTH 1201	Calculus II	3
SAS 1201	Mathematics of Finance I	3
SAS 1202	Accounting I	3
STA 1202	Probability Theory I	3
STA 1203	Statistical Inference I	3
	TOTAL CREDITS	42

Year II

In their second year, the students are expected to continue developing their skills in mathematics, statistics, financial subjects (Accounting) and actuarial subjects (Life contingencies). Later these subjects are allowed as exemptions from professional actuarial examinations. The list of second year course units per semester is as follows:

Semester I		CU
ECO 2101	Micro Economics	3
MTH 2103	Differential Equations	3
MTH 2104	Linear Algebra II	3
SAS 2101	Mathematics of Finance II	3
SAS 2102	Life Contingencies I	3
SAS 2103	Actuarial Data Processing	3
STA 2106	Time Series Analysis	2
STA 2101	Probability Theory II	3
Semester II		
ECO 2201	Macro Economics	3
MTH 2203	Linear Programming I	3
SAS 2201	Accounting II	2
SAS 2202	Life Contingencies II	3
SAS 2203	Statistics for Insurance	3
SAS 2206	Regression Analysis	3

BPS 2206	Research Methods	2
STA 2206	Regression Analysis	3
STA 2210	Linear Programming I	3
Recess term		
SAS2301*	Professional Training Attachment	2
	TOTAL	44

Year III

The third year focuses largely on specialised actuarial topics: Investment, Asset Management, Life Assurance and Pensions. These courses provide a good background and a better understanding of the topics relevant to the actuarial profession. Four courses in third year will be electives. The list of third year course units per semester is as follows;

Semester I		CU
SAS 3101	Demographic Statistics	3
STA 3102	Multivariate Analysis	3
STA 3103	National Accounts and Income Analysis	3
STA 3106	Demographic & Social Statistics	3
STA 3116	Industrial Statistical Modeling	3
SAS 3102	Principles and Practice of Insurance	3
SAS 3103	Management Accounting I	3
SAS 3104	Econometric Modelling	3
SAS 3105	Project Appraisal	3
SAS 3106	Introduction to Sociology	3
Year III, Semester I total credit units		21
Semester II		
MTH 3203	Linear Programming	
SAS 3201	Investment and Asset Management	3
SAS 3202	Life Assurance	3
SAS 3203	Pension Analysis	3
SAS 3204	Research Project Paper	5
SAS 3205	Industrial Statistical Modelling	3
SAS 3206	Project Planning*	3
SAS 3207	National Accounts*	3
STA 3203	Research Project	
STA 3215	Econometric Methods	
STA 3223	Operations Research	
Year III, Semester II total credit units		20
Year III Total credit units		41

KEY

* *Select one*