

BACHELOR OF SCIENCE IN STATISTICS

Statistics is widely applied in modern professions like biotechnology, engineering, environmental science, industrial manufacturing, insurance, medical science, economics and social sciences to collect, study, describe, analyse, and interpret data. The Bachelor of Science degree in Statistics is a three-year program, designed to provide students with a fundamental understanding of probability and mathematical statistics with methods for data collection and inference. It further provides practical computing for undertaking statistical analyses of problems in different areas of application. The students who graduate with a Bachelor of Science in Statistics are highly sought for in business, industry, research and government. In business and industry, statisticians are greatly involved in quality control, reliability, product development and improvement, and marketing processes. Statisticians are employed by nearly every government department and in many scientific, medical, environmental, defense and agricultural agencies. Business firms rely on workers with a background in statistics to forecast sales, analyse business conditions, and help solve managerial problems. With the widespread availability of data, statistics is applied across a growing range of industries to aid innovation in science, engineering and economics, and also enhancing organizational decision-making.

The objectives of this programme are to:

- a. To produce, in an intellectually challenging learning environment, top quality graduates with skills and knowledge to compete, with advantage, either for opportunities in further education and training in statistics, or for direct entry into scientific careers in applied statistics.
- b. To provide students with a broad understanding of the topics that constitutes the recognized core of statistics knowledge and to allow detailed specialization in advanced topics selected by students.
- c. To allow students to develop the ability to design and execute their own experiments, to analyze experimental data, to draw qualitative and quantitative conclusions from data and to discern whether such conclusions are justified.
- d. To provide students with transferable skills in use of computers, information and communication technology, electronic data base searching, numeracy, presentation skills, teamwork and time management skills.

Entry Requirements

The general Admission requirements shall be decided and revised periodically by the Senate and made available by the Office of the Deputy Vice Chancellor (DVC).

a. Direct Entry: A student must satisfy the general minimum entry requirements as stipulated by NCHE. In addition, the following regulations shall hold: Candidates seeking admission through this avenue must have obtained: -

- a. The Uganda Certificate of Education (UCE) or its equivalent, with credits in English and Mathematics.
- b. At least two principal passes obtained at the same sitting in Uganda Advanced Certificate of Education (UACE) in a subject combination involving Principal Mathematics offered at A Level; one of the passes must be in Principal Mathematics.
- c. For purposes of computing weighted points, the advanced level subjects shall be grouped and weighted as follows: -
- d. Principal Mathematics weighs 3, second best done subject weight is 2, third best done subject weighs 1 and subsidiary subjects weigh 0.5.

b. Diploma Entry: students seeking admission through the Diploma Holder's Scheme must:

- a. Have passed Mathematics and English with at least a credit in the Uganda Certificate of Education or its equivalent
- b. Have done a combination involving Mathematics at UACE and passed Mathematics at principal

level

- c. Have done a relevant Diploma with sufficient Mathematics content eg Education (Mathematics), Economics, Statistics, Accountancy, etc

Program Structure

YEAR 1: SEMESTER 1

Code	Course Name	LH	TH	PH	CH	CU
ENG 1101	English Language Grammar	30	30	00	45	3
????	Entrepreneurship	20	20	00	30	2
STAT 1101	Descriptive Statistics	30	30	00	45	3
STAT 1102	Microeconomics 1	30	30	00	45	3
MTC 1101	Calculus 1	30	30	00	45	3
MTC 1104	Linear algebra	30	30	00	45	3
STAT 1105	Introduction to Accounting	30	30	00	45	3
CSC 1101	Basics of Computer technology	30	00	30	45	3
TOTAL						23

YEAR 1: SEMESTER 2

CODE	COURSE NAME	LH	TH	PH	CH	CU
LIT 1201	Literature and Composition	30	30	00	45	3
PIE 1202	Introduction to Ethics	30	30	00	45	3
MTC 1201	Calculus 2	30	30	00	45	3
STAT 1201	Elements of Probability	30	30	00	45	3
STAT 1204	Introduction to Computer Programming	30	00	30	45	3
STAT 1203	Statistical organization and official statistics	30	30	00	45	3
STAT 1204	Time series and index numbers	30	15	15	45	3
ECO 1201	Macroeconomics 1	30	30	00	45	3
TOTAL						24

YEAR 2: SEMESTER 1

CODE	COURSE NAME	LH	TH	PH	CH	CU
COS 2101	Communication Skills	30	30	00	45	3
CSC 2102	Database Planning and Management	30	30	00	45	3
MTC 2101	Mathematical Real Analysis	30	30	00	45	3
STAT 1204	Statistical packages 1 (Excel, SPSS, Epi-data/ Epi-info)	15	30	00	30	2
STAT 1205	Principles of development economics	30	30	00	45	3
STAT 2101	Sampling theory and survey design	30	15	15	45	3
STAT 2102	Differential Equations	30	30	00	45	3
STAT 2105	Probability theory	30	30	00	45	3
TOTAL						23

YEAR 2: SEMESTER 2

CODE	COURSE NAME	LH	TH	PH	CH	CU
PEF 2201	Ethics in Focus	30	30	00	45	3
MTC 2201	Numerical analysis	30	30	00	45	3
MTC 2202	Applied multivariate analysis	30	30	00	45	3

STAT 2202	Statistical inference	30	30	00	45	3
STAT 2203	Introduction to Non-Parametric Statistics	30	30	00	45	3
STAT 2204	Econometrics	30	30	00	45	3
STAT 2205	Statistical packages 11 (STATA and R)	15	30	00	30	2
STAT 2206	Research methods	30	15	15	45	3
TOTAL						23

YEAR 2: RECESS

Code	Course Name	LH	TH	PH	CH	CU
STAT 2207	Industrial training attachment					4
	Total CUs					4

YEAR 3: SEMESTER 1

CODE	COURSE NAME	LH	TH	PH	CH	CU
BEN 3101	Business English	30	30	00	45	3
COC 3101	Science, Economics and Ethics	30	30	00	45	3
STAT 3101	Experimental Design	30	15	15	45	3
STAT 3102	Project management, monitoring and evaluation	30	15	15	45	3
STAT 3103	Stochastic processes	30	15	15	45	3
Electives: Choose any two from one of the option groups						
OPTION GROUP 1: APPLIED STATISTICS						
STAT 3104	Actuarial Mathematics I	30	30	00	45	3
STAT 3105	Demography and social statistics	30	00	30	45	3
STAT 3106	Epidemiology and Biostatistics	30	30	00	45	3
STAT 3107	National accounting and income analysis	30	30	00	45	3
STAT 3108	Agricultural statistics	30	30	00	45	3
STAT 3109	Economic Development planning and policy	30	30	00	45	3
STAT 3110	Pattern recognition & prediction in statistics	30	30	00	45	3
STAT 3111	Survival Analysis	30	30	00	45	3
OPTION GROUP 2: STATISTICAL COMPUTING						
STAT 3112	Computer architecture	30	00	30	45	3
STAT 3113	Software engineering	30	00	30	45	3
STAT 3114	Computer networking	30	00	30	45	3
STAT 3115	Systems analysis and design	30	00	30	45	3
TOTAL						21

YEAR 3: SEMESTER 2

CODE	COURSE NAME	LH	TH	PH	CH	CU
COC 3202	Dissertation/Research project					4
STAT 3201	Operations research	30	15	15	45	3
STAT 3202	Industrial, energy and environment statistics	30	30	00	45	3
STAT 3203	Principles of Data Science and Artificial Intelligence	30	15	15	45	3
Electives: Choose any two from one of the option groups						
OPTION GROUP 1: APPLIED STATISTICS						
STAT3204	Actuarial Mathematics II	30	30	00	45	3
STAT 3205	Price statistics, distributive trade and services statistics	30	30	00	45	3
STAT 3206	External trade and balance of payments	30	30	00	45	3

STAT 3207	Financial statistics	30	30	00	45	3
OPTION GROUP 2: STATISTICAL COMPUTING						
STAT 3208	Operating systems	30	30	00	45	3
STAT 3209	Management information systems	30	30	00	45	3
STAT 3210	Database management systems	30	30	00	45	3
STAT 3211	Data mining	30	30	00	45	3
STAT 3212	Data communications and networks	30	30	00	45	3
TOTAL						19

YEAR 3: RECESS

Code	Course Name	LH	TH	PH	CH	CU
STAT 3213	Industrial training attachment					4
	Total CUs					4