

HOW TO APPLY

The course is advertised through the press. The application forms are then obtainable from JKUAT, upon payment of a non-refundable fee of Ksh. 1,500 for Kenyan citizens and Kshs. 1,950 for Non-citizens.

TUITION FEES

For Kenyan citizens, tuition fees is Kshs 125,700.00 for the first semester of the first year, and reduces depending on the number of units offered in the other semesters. For non citizens, add an extra 20% to the amount in every semester.

ACCOMODATION

Accommodation may not be available and students are expected to make their own arrangements. The office of the Dean of Students may recommend suitable hostels for accommodation.

ENTRY REQUIREMENTS

Must have passed KCSE at a minimum average grade of C+ and at least C+ in English. In addition, the candidate must have passed Mathematics at KCSE with a minimum grade of C+ or credit in Bridging Mathematics.

OR

1.1 Have a minimum of 2 principle passes in Science subjects, one of which should be Mathematics, in General Certificate of Education (CGE) Advanced Level/ Kenya Advanced Certificate of Education (KACE).

OR

1.2 Have a Diploma in Mathematics or Statistics and with at least a credit pass from an Institution recognized by the University Senate,

OR

1.3 Have a Diploma in Applied Sciences, in which there has been a substantial mathematical content, with at least a credit pass in relevant subjects from an Institution recognized by the University Senate.

OR

1.4 Have a Higher National Diploma in Mathematics or Statistics from an institution recognized by the University Senate,

OR

1.5 Have any other qualifications accepted by the University senateas equivalent to 1.1 to 1.3 above. Students who hold any of the qualifications 1.2, 1.3 and 1.4 above may at the discretion of the School of Mathematical Sciences be admitted directly to the second year of the course in which case they may complete their course in a minimum of three academic years and maximum of five academic years.

Students who hold any of the qualification 1.5 above may at the discretion of the School of Mathematics and Physical Sciences be admitted directly to the third year of the course in which case they may complete their course in a minimum of two academic years and maximum of four academic years. However, applicants should note that these are MINIMUM requirements and do NOT guarantee any applicant automatic admission to the degree program.

For more information, Contact:

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JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Setting Trends in Higher Education, Research and Innovation

BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE

Department of Statistics and Actuarial Sciences



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INTRODUCTION

Actuarial Science is a branch of Science that makes use of statistical and mathematical methods to quantify, predict or model the risk of an event occurring. It applies the mathematics of probability and statistics to define, analyze and solve financial implications of uncertain future events where traditional actuarial scientists revolve in financial and insurance industries. Actuarial services include pricing products, minimizing future risks, offering actuarial related consultancies and so on which is in great demand by many companies.



COURSE OBJECTIVE

A graduate actuarial scientist is expected to be able to theoretically design insurance products, value financial contracts, model mortality, longevity and morbidity, interpret demographic and financial data to inform prudent decisions.

EMPLOYMENT AVENUES

The students are expected to find employment in:-

- ◆ Insurance and Brokerage Firms.
- ◆ Pension and Asset Management Firms
- ◆ Research, Advisory and Consultancy firms.
- ◆ Financial Services and Investment Companies.
- ◆ Governmental and Non-governmental Institutions.
- ◆ Banking Sector.
- ◆ Software development companies.
- ◆ Education Sector.

COURSE DURATION

The program takes a total of 9 semesters with 2 semesters per academic year. Each student is required to undertake a mandatory research project and practical attachment for a period of not less than 8 weeks at the end of the 8th semester. One may undertake any additional unit in their 2nd, 3rd and 4th year of study which does not count towards the classification of the degree but will appear on the transcript. One unit takes a series of 35 one lecture hours where a 3 hour practical period and a 2 hour tutorial period being equivalent to a 3 hour lecture.

COURSE OUTLINE

First Year

First Semester University Unit HRD 2101

Communication Skills

Faculty Unit SMA2104

Mathematics for Science

Core Units

SMA2100	Discrete Mathematics
STA 2101	Algebra for Statistics and Finance
STA 2102	Information Technology for Statistics
STA 2103	Business Economics I
STA 2104	Calculus for Statistics I
STA 2190	Fundamentals of Actuarial Science

Second Semester University Units

HRD2102	Development studies and Social Ethics
SZL 2111	HIV/AIDS

Core Units

STA 2100	Probability & Statistics I
STA 2105	Calculus for Statistics II
STA 2106	Business Economics II
STA 2107	Database Management
STA 2191	Financial Mathematics I
STA 2192	Accounts and Finance for Actuarial Science

Second Year

First Semester Core Units

SMA2201	Linear Algebra II
STA 2200	Probability & Statistics II
STA 2202	Computer Interactive Statistics
STA 2204	Calculus for Statistics III
STA 2290	Financial Mathematics II
STA 2291	Actuarial Mathematics II
STA 2293	Demographic Techniques

Second Semester Core Units

SMA 2231	Differential Equations
STA 2201	Probability & Statistics III
STA 2205	Statistical Programming
STA 2209	Operations Research for Statistics
STA 2292	Actuarial Mathematics II
STA 2294	Financial Economics I
SZL 2295	Financial Reporting for Actuarial Science

Third Year

First Semester

Core Units

SMA 2306	Linear Algebra II
SMA 2321	Numerical Analysis
STA 2300	Theory of Estimation
STA 2302	Probability and statistics IV
STA 2303	Design and Analysis of Sample Surveys
STA 2306	Real Analysis for Statistics
STA 2312	Regression Modelling I

Second Semester

Core Units

STA 2301	Tests of Hypotheses
STA 2305	Stochastic Processes
STA 2308	Bayesian Inference I
STA 2310	Decision Theory
STA 2313	Research Methodology for Statistics
STA 2391	Risk Theory for Actuarial Science
STA 2401	Time Series Analysis

Fourth Year

First Semester

University Unit

HRD 2401	Entrepreneurship Skills
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Core Units

STA 2402	Generalized Linear Mixed Models
STA 2408	Regression Modelling II
STA 2416	Statistical Computing
STA 2418	Stochastic Calculus
STA 2491	Pension Mathematics
STA 2499	Project in Actuarial Science

Second Semester

Core Units

STA 2420	Financial Time Series
STA 2492	Credibility Theory
STA 2493	Survival Analysis
STA 2494	Investment and Asset Management
STA 2495	Non-Life Insurance Mathematics
STA 2496	Documentation and Auditing of Actuarial Models
STA 2497	Financial Economics II
STA 2499	Project in Actuarial Science

Third Semester

STA 2410	Industrial Attachment
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