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:
The Chairman, Dept. of Statistics and Actuarial Sciences
P.O. Box 62000-00200, Nairobi
Tel: +254(67)52218, Fax:+254(67)52089
Email: stacs@fsc.jkuat.ac.ke

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Setting Trends in Higher Education, Research and Innovation

BACHELOR OF SCIENCE IN FINANCIAL ENGINEERING

Department of Statistics and Actuarial Sciences

P.O. Box 62000-00200, Nairobi, Kenya.
Telephone:+254(67)52218.
Fax:+254(67)52089
Email: stacs@fsc.jkuat.ac.ke

INTRODUCTION

Financial Engineering is a multidisciplinary field of study that uses mathematical methods to provide solutions in problems in finance. They use concepts and methods from computer science, physics, statistics and mathematics

COURSE OBJECTIVE

A graduate financial engineering student is expected to be able to solve financial problems in corporate finance, portfolio management, risk management, quantitative analysis and trading for companies using various mathematical analytical tools.

EMPLOYMENT AVENUES

The students are expected to find employment in:-

- Financial Services and Investment Companies.
- Banking Sector
- Insurance and Brokerage Firms.
- Fund and Asset Management Firms
- Research, Advisory and Consultancy firms.
- Governmental and Non-governmental Institutions.
- 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

SMA 2100	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
STA 2120	Fundamentals of Financial Engineering

Second Semester

University Units

HRD2102	Development studies and Social Ethics
SZL 2111	HIV/AIDS

Core Units

STA 2100	Probability & Statistics I
STA2105	Calculus for Statistics II
STA 2106	Business Economics II
STA 2107	Database Management
STA 2121	Foundations of Financial Mathematics
STA 2122	Financial Accounting Theory

Second Year

First Semester

Core Units

SMA 2201	Linear Algebra I
STA 2200	Probability and Statistics II
STA 2202	Computer Interactive Statistics
STA 2204	Calculus for Statistics III
STA 2220	Fixed Income Securities Analysis
STA 2222	Money and Banking
STA 2224	Cost & Management Accounting

Second Semester

Core Units

SMA 2231	Differential Equations
STA 2201	Probability & Statistics III
STA 2205	Statistical Programming
STA 2211	Linear Programming
STA 2221	Theory of Insurance Practice
STA 2223	Business Finance & Financial Statements Analysis
STA 2225	Supply Chain & Fund Management

Third Year

First Semester

Core Units

SMA 2305	Complex Analysis
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 2313	Research Methodology for Statistics
STA 2320	Investment Analysis & Portfolio Theory
STA 2321	Legal Environment of Business
STA 2322	Risk Management in Financial Institutions
STA 2401	Time Series Analysis

Fourth Year

First Semester

University Unit

HRD 2401	Entrepreneurship Skills

Core Units

STA 2408	Regression Modelling II
STA 2418	Stochastic Calculus
STA 2420	Financial Time Series
STA 2421	Derivative Securities and Markets
STA 2424	Behavioural Finance
STA 2428	Optimization Techniques
STA 2429	Project in Financial Engineering

Second Semester

Core Units

STA 2419	Computational Finance
STA 2422	Game Theory
STA 2423	Financial Risk Measurement
STA 2425	Life, Health and Social Insurance
STA 2426	Extreme Financial Risk Measurement
STA 2427	Corporate Finance
STA 2429	Project in Financial Engineering

Third Semester

STA 2410	Industrial Attachment