

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 BIOSTATISTICS

Department of Statistics and Actuarial Sciences



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INTRODUCTION

Biostatistics is a branch of science that advances statistical science and its application to identify several health risks. Biostatisticians run clinical trials, surveys, lab experiments, focus groups, field observations, and case studies facilitating the collection, compilation, interpretation, summarization and analysis of such data to draw meaningful conclusions.



COURSE OBJECTIVE

A graduate biostatistics student is expected to be able to use statistical tools to help answer pressing research questions in medicine, biology and public health e.t.c on aspects such as how a new drug works or what are the causes of some disease and so on. The student should be able to comfortably perform experiments, clinical trials, surveys, lab experiments and so on in health sciences.

EMPLOYMENT AVENUES

The students are expected to find employment in:-

- ◆ Research, Advisory and Consultancy firms.
- ◆ Pharmaceutical Companies
- ◆ Advertisement Companies
- ◆ Healthcare and Medical Sector
- ◆ Governmental and Non-governmental Institutions
- ◆ 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 2130 Fundamentals of Biostatistics
STA 2104 Calculus for Statistics
HBB 2150 Introduction to Biochemistry

Second Semester

University Units
HRD2102 Development studies and Social Ethics
SZL 2111 HIV/AIDS

Core Units
SBT 2172 Cell Biology
STA 2100 Probability & Statistics I
STA 2105 Calculus for Statistics II
STA 2107 Database Management
STA 2110 Fundamentals of Vital Statistics
SZL 2102 Introduction to Animal Physiology

Second Year

First Semester

Core Units
SBT 2201 Cell Biology and Genetics
SMA2201 Linear Algebra II
STA 2200 Probability & Statistics II
STA 2202 Computer Interactive Statistics
STA 2204 Calculus for Statistics III
STA 2206 Ordinary Differential Equation for Statistics
STA 2210 Fundamentals of Epidemiological Methods

Second Semester

Core Units
STA 2201 Probability & Statistics III
STA 2203 Time series Analysis I
STA 2205 Statistical Programming
STA 2207 Partial Differential Equations for Statistics
STA 2208 Design and Analysis of Experiments I
STA 2232 Ecological Sampling Techniques
SZL 2422 Bioethics and Biosafety

Elective Unit
SMA 2321 Numerical Analysis I

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 Experiments I
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 2313 Research Methodology for Statistics
STA 2333 Categorical Data Analysis
STA 2337 Design and Analysis of Clinical Trials
STA 2404 Non-Parametric Methods

Fourth Year

First Semester

University Unit
HRD 2401 Entrepreneurship Skills

Core Units
STA 2407 Multivariate Methods
STA 2408 Regression Modelling II
STA 2417 Bayesian Inference II
STA 2436 Modelling Infectious Diseases
STA 2432 Principles of Non-Linear Models
STA 2438 Computational Biology
STA 2439 Project in Biostatistics

Second Semester

Core Units
STA 2402 Generalized Linear Mixed Models
STA 2414 Survival Data Analysis
STA 2416 Statistical Computing
STA 2434 Statistical Genetics
STA 2435 Longitudinal Data Analysis
STA 2437 Spatial Statistics and Disease Mapping
STA 2439 Project in Biostatistics

Third Semester

STA 2410 Industrial Attachment