



B.Sc. Epidemiology & Biostatistics

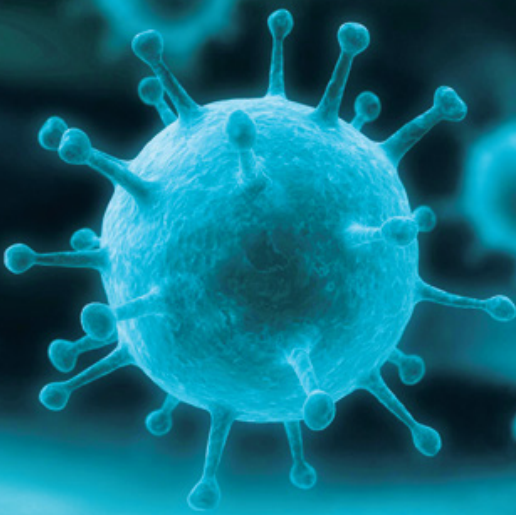
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United States
International
University-Africa

Education to take you places



PROGRAM DESCRIPTION

The USIU-Africa Bachelor of Epidemiology and Biostatistics program is based on two basic and seamlessly integrated sciences of public health. The program promotes the development, application and teaching of descriptive and analytic approaches used to understand the increasingly complex causes, distribution and determinants of major local, national, regional and global public health problems.

At the same time, the program develops, applies and teaches theories and methods in the design of biological, biomedical and health-related studies and in collection, analysis and interpretation of data to inform and support the descriptive and analytic approaches that can be used to prevent and control diseases as well as promote public health.

PROGRAM LEARNING OUTCOMES

Upon successful completion of the program, the students will be able to:

1. Use epidemiologic knowledge to respond to a variety of practical situations that impact on public health
2. Employ biostatistical methods to conduct basic life science research
3. Analyze the appropriateness of existing laws and ethics in assuring population public health
4. Interpret research results of statistical analyses in public health
5. Use relevant statistical software to organize, analyze, and report on life science research data
6. Develop a plan for data management and analysis using appropriate statistical techniques
7. Design Clinical trials and analyse disease prediction data
8. Apply mathematical modelling for disease outcomes

GENERAL EDUCATION**39 UNITS****SIGNATURE COURSES****12 UNITS****STRATEGIES FOR UNIVERSITY SUCCESS****3 UNITS**

SUS 1010 Strategies for University Success

RESEARCH METHODS**3 UNITS**

GRM 2000 Introduction to Research Methods

COMMUNITY SERVICE OR COMMUNITY PROJECT**3 UNITS**

CMS 3700 Community Service

THE SENIOR EXPERIENCE**3 UNITS**

SEN 4800 Integrated Senior Seminar

LANGUAGE STUDIES**12 UNITS****ENGLISH****6 UNITS**

ENG 1106 Composition I

ENG 2206 Composition II

FOREIGN LANGUAGE**6 UNITS**

Students must have credit for a foreign language or must take up a two-course foreign language sequence of one language. USIU-Africa offers courses in Arabic, Chinese, French, Japanese, Spanish, and Swahili.

Foreign Language I

Foreign Language II

DISCIPLINARY GENERAL EDUCATION ELECTIVES**15 UNITS**

MTH 1109 College Algebra

3 Units

IST 1010 Introduction to Information Systems

3 Units

SCHOOL-BASED GENERAL EDUCATION ELECTIVES**9 UNITS**

Students are required to pick 3 electives from the other schools (At least one of the courses should be an upper level course).

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES - LOWER LEVEL ELECTIVES

SOC 2201 Introduction to Sociology

CHANDARIA SCHOOL OF BUSINESS – LOWER LEVEL ELECTIVES

BUS 1010 Introduction to Business Organizations

CHANDARIA SCHOOL OF BUSINESS – UPPER LEVEL ELECTIVES

MGT 3010 Overview of Management Practice

MAJOR**155 UNITS****SELECTED SCHOOL COURSES****48.5 UNITS****LOWER DIVISION COURSES****16.5 UNITS**

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|----------|---|
| HSC 1330 | Calculus for Health Sciences |
| HSC 1394 | Introduction to Global Health |
| NSC 2205 | Human Physiology |
| MIC 2360 | Introduction to Microbiology & Parasitology |
| HSC 2391 | Principles of Health Economics |

UPPER DIVISION COURSES**32 UNITS**

| | |
|----------|---|
| BUS 4090 | Strategic Management |
| ENT 4005 | Entrepreneurial Behavior and Ethics |
| HSC 3395 | Environmental & Occupational Health |
| HSC 3492 | Law & Bioethics in Research |
| HSC 4010 | Sociology for Health Sciences |
| HSC 4494 | Practicum & Attachment |
| HSC 4495 | Project Planning & Proposal Development |
| HSC 4496 | Research Methods in Health Sciences |
| PHM 4510 | Fundamentals of Pharmacometrics |

PUBLIC HEALTH & EPIDEMIOLOGY COURSES **40.5 UNITS****LOWER DIVISION COURSES****15 UNITS**

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|----------|---|
| EPI 1000 | Introduction to Epidemiology |
| EPI 1010 | Epidemiology of Diseases |
| EPI 2010 | Nutritional Epidemiology |
| PHT 2010 | Disease Prevention & Health Promotion |
| PHT 2020 | Control & Prevention of Infectious Diseases |

UPPER DIVISION COURSES**25.5 UNITS**

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|----------|--|
| EPI 3010 | Advanced Epidemiology |
| EPI 4010 | Exposure Assessment in Epidemiology |
| EPI 4020 | Genetic & Molecular Epidemiology |
| EPI 4030 | Pharmacoepidemiology and Drug Safety |
| HSC 4396 | Fundamentals of Global Health |
| PHT 3010 | Contemporary Community Health Issues |
| PHT 4010 | Public Health Epidemiology |
| PHT 4020 | Monitoring & Evaluation of Health Programs |

BIostatISTICS AND DATA ANALYSIS**66 UNITS****LOWER DIVISION COURSES****15 UNITS**

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| BST 1010 | Introduction to Biostatistics |
| BST 1020 | Introduction to Statistical Computing |
| BST 2010 | Probability & Statistical Inference |
| IST 2230 | Introduction to Computer Fundamentals & Programming |

UPPER DIVISION COURSES**51 UNITS**

| | |
|----------|---|
| DAN 3010 | Multivariate Methods/ Analysis |
| DAN 3020 | Data Mining |
| BST 3010 | Regression Modelling |
| BST 3020 | Demographic Techniques |
| DAN 4010 | Design & Management of Clinical Trials |
| DAN 4015 | Longitudinal Data Analysis |
| BST 4010 | Research Project |
| BST 4030 | Spatial Statistics and Disease Mapping |
| BST 4050 | Biostatistical Consultancy |
| DAN 4020 | Survival Data Analysis |
| DAN 4030 | Time Series Analysis |
| BST 4020 | Mathematical Modelling of Infectious diseases |
| BST 4040 | Statistical Genetics |
| BST 4060 | Principles of Bioinformatics |





ADMISSION REQUIREMENTS



- Kenya Certificate of Secondary Education (KCSE) or its equivalent with a minimum aggregate of C+ and attained the following minimum grades in the specified subjects: Biology C+; Mathematics B-; and English B-; or
- Kenya Advanced Certificate of Education (KACE) Certificate with two principal passes in Biology and Mathematics and a subsidiary; or
- Be a holder of a KNEC Diploma or its equivalent in Epidemiology and Biostatistics
- Five (5) upper level passes at IGCSE/IB
- Five (5) credits in any 5 subjects at 'O' Level, and/or 'A' Level passes of 'C' at GCE

CAREER OPTIONS



- Biostatisticians/Statistical Analysts
- Epidemiologists
- Researchers
- Lecturers
- Health Data Managers
- Monitoring and Evaluation Officers
- Independent Consultants
- Big Data Managers
- Clinical Trial Experts
- Clinical Trial Studies Specialists

CONTACTS

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Accredited in Kenya & the United States of America by the Commission for University Education (CUE) and WASC Senior College and University Commission respectively.

