



Bachelor of Science in Applied Biochemistry

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United States
International
University-Africa

Education to take you places

PROGRAM DESCRIPTION



Applied Biochemistry focuses on knowledge and techniques in biochemistry that can be applied to solve challenges relating to improving health and nutrition, forensics, increasing agricultural and manufacturing productivity and sustaining the environment. The program focuses on three main areas: Industrial Biochemistry which focuses on application of biological molecules for medical, industrial, environmental, agricultural for analytical purposes; Medical Biochemistry which equips students with knowledge, skills, attitude and understanding of the fundamental importance of biochemistry, with particular reference to the ways in which this relates to health issues, molecular basis of disease, biochemical basis of drug based therapy and an understanding in development of new medical treatments, and Forensic Biochemistry which equips students with knowledge and skills of how to obtain evidence from biological materials for use in law enforcement, criminal justice, homeland security and related fields. The program is thus aligned to the University's philosophy as articulated in the mission outcomes of higher order thinking; literacy; global understanding and multicultural perspective; preparedness for career; community service; and leadership and ethics.

The goal of the program is to develop a critical mass of graduates with biochemical knowledge, the state-of-the-art skills, and professional attitude that can match the needs of industries, health care facilities, learning and research institutions.

PROGRAM LEARNING OUTCOMES

Upon completion of the Bachelor of Science in Applied Biochemistry program, students will be able to:

- Analyze the cellular processes that govern life;
- Use integrated knowledge in biological chemistry to solve biochemical problems;
- Conduct biomedical research and communicate scientific information using set standards for reporting and citation;
- Apply biochemical knowledge and techniques in criminal justice, agriculture, manufacturing and business processes;
- Design innovative biochemical products and services using ethically-sound practices.

DEGREE REQUIREMENTS 187.5 UNITS

GENERAL EDUCATION	39 UNITS
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SIGNATURE COURSES	12 UNITS
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STRATEGIES FOR UNIVERSITY SUCCESS	3 UNITS
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SUS 1010 Strategies for University Success

RESEARCH METHODS	3 UNITS
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GRM 2000 Introduction to Research Methods

COMMUNITY SERVICE OR COMMUNITY PROJECT	3 UNITS
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CMS 3700 Community Service

THE SENIOR EXPERIENCE	3 UNITS
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SEN 4800 Integrated Seminar

WRITTEN, ANALYTICAL, CRITICAL THINKING SKILLS	12 UNITS
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ENGLISH LANGUAGE	6 UNITS
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ENG 1106 Composition I (WI)

ENG 2206 Composition II (WI)

FOREIGN LANGUAGE	6 UNITS
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Student must have a credit transfer for a foreign language or must take up to two- course foreign language sequence of one language. USIU-Africa offers courses in Arabic, French, Japanese, Spanish, Swahili and Chinese.

BCM 3210	Gene Technology and Biotechnology
BCM 3230	Industrial Biochemistry
BCM 3250	Principles of Bioinformatics
BCM 3260	Biochemistry of Specialized Organs and Tissues
BCM 3300	Clinical Biochemistry
PHT 3350	Principles of Pharmacognosy
BCM 3330	Integrated Laboratory Skills Workshops
BCM 3360	Comparative Biochemistry
SEN 4800	Integrated Senior Seminar
BCM 4100	Bioremediation and Waste Management
BCM 4120	Principles of Forensic Biochemistry
BCM 4400	Research Project in Biochemistry



ADMISSION REQUIREMENTS

To obtain admission into the program, an applicant must satisfy one of the following requirements:

- Kenya Certificate of Secondary Education (KCSE) or its equivalent with mean grade C+ and attained the minimum grade of C+ in the cluster subjects;

OPTION A

Biology
Chemistry
Mathematics/Physics
English

OPTION B

Biological Sciences /Chemistry
Physical Sciences /Mathematics
English

- Kenya Advanced Certificate of Education (KACE) with two principal passes in Biology or Chemistry and Mathematics and a subsidiary. or
- Holders of BSc. General from accredited institutions shall undertake selected courses of the program subject to the allowable credit transfer. They must also have taken Chemistry and Biological Science courses.

CAREER OPTIONS

Graduates will venture into careers in research institutions, medical laboratory technicians, food and beverages and quality assurance industries, academia, pharmaceutical companies, nutritional counseling, forensic laboratory technicians and self-employment in a biochemical/ biotechnological entrepreneurship.

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.**