

13.1.3 BACHELOR OF SCIENCE (BIOTECHNOLOGY)

Entry Requirements

- i. The University and the School of Pure and Applied Sciences admission regulations shall apply.
- ii. A candidate for the degree of B.Sc. in Biochemistry must satisfy the minimum requirements for entry to the School of Pure and Applied Sciences and Kenyatta University.
- iii. In addition, they must have passed with a minimum of C+ in the overall average aggregate and attained the grades in the following subjects:

Alternative A:

Biology

B-

Chemistry

B-

Mathematics/Physics

C+

Alternative B:

Biological Sciences

B

Physical Sciences

B

Mathematics

C+

- iv. Mean grade of C- (minus) at KCSE and progressed from certificate to Diploma at Kenyatta University or any other recognized/accredited Institutions.

Programme of study and degree pattern

The Department of Biochemistry shall offer Bachelor of Science degree in Biotechnology.

To graduate with B.Sc. Biotechnology the candidate shall have satisfactorily completed 49 required departmental units in addition to the University common units. In the first and second years of study, all units will be core. In the third and fourth years of study students will be required to take all the core units and any 6 electives at each level. The students will also be required to take 3 university common units.

Examinations

The continuous assessment tests shall constitute 30% while the end of semester exam shall constitute 70 % of the final exam. The pass mark shall be 40%

Certification

Graduates of this programme will be awarded a Bachelor of Science degree in Biotechnology (Bachelor of Science Biotechnology).

Unit Code and Title

Level 100

SBC 100: Structure of Bio-molecules

SBC 101: The Cell and its External Environment

SBC 103: Proteins and Enzymes I

SBC 104: Carbohydrate Metabolism

SBC 120: Introduction to Genetics

SBC 121: Quantitative Genetics
SBT 101: Survey of Plant Kingdom
SBT 102: Plant Morphology and Anatomy
SCH 100: Fundamentals of Inorganic Chemistry
SCH 101: Introduction to Physical Chemistry
SCH 102: Organic Chemistry 1
SMA 100: Mathematics for Science I
SZL 100: General Zoology

Level 200

SBC 200: Lipid Metabolism
SBC 201: Proteins and Enzymes II
SBC 202: Analytical Techniques I
SBC 203: Bio-membranes and Sub-cellular Organelles
SBC 205: Medical Biochemistry I
SBC 206: Introduction to Biophysics
SBC 207: Cytology and Histology
SBC 220: Fundamentals and Applications of Biotechnology
SBC 221: Cellular and Molecular Biology I
SBC 223: Nucleic Acids and Protein Synthesis
SBT 202: General Microbiology
SCH 202: Organic Chemistry II
UCU Unit

Level 300

SBC 300: Biochemistry of Micro-organisms
SBC 302: Analytical Techniques II
SBC 303: Introduction to Immunology
SBC 305: Applied Microbial Biochemistry I
SBC 306: Biochemical Pharmacology
SBC 307: Pharmacognosy (Elective)
SBC 308: Biostatistics and Research Methodology
SBC 309: Ecological Biochemistry (Elective)
SBC 320: Gene Expression and Regulation
SBC 321: Gene Mapping Techniques
SBC 322: Plant Cell and Tissue Culture
SBC 323: Introduction to Bioinformation Technology
SBC 324: Microbial Biotechnology
SBC 325: Attachment in Biotechnology (1 unit-Elective)

Level 400

SBC 402: Plant Molecular Biology
SBC 403: Advanced Immunology
SBC 407: Biochemical Toxicology (prerequisite SBC 306)
SBC 409: Fermentation Technology
SBC 420: Gene Technology
SBC 421: Bioprocessing
SBC 422: Forensic DNA Technologies
SBC 423: Industrial Biotechnology

SBC 424: Animal biotechnology
SBC 425: Bio-safety and Bioethics
SBC 426: Environmental Biotechnology
SBC 427: Fundamentals of Bioinformatics
SBC 428: Research Project (equivalent to 2 units) SBC
429: Population and Evolutionary Genetics