

### 13.1.4 BACHELOR OF SCIENCE (MOLECULAR AND CELLULAR BIOLOGY)

#### Entry requirements

- i. Kenyatta University entry requirements shall apply.
- ii. A candidate wishing to enroll for a B.Sc. in Molecular and Cellular Biology must satisfy the minimum entry requirements for the School of Pure and Applied Sciences of Kenyatta University.
- iii. Candidates must have passed with a minimum of C+ in the overall average aggregate. In addition, the student must have passed in the following subjects:

Alternative A:

Biology B-

Chemistry B-

Mathematics/ Physics C+

Alternative B:

Biological Science B

Physical Science B

- iv. Diploma (or equivalent qualification) in relevant discipline from a recognized institution, with credit or distinction. In addition, candidates must have had a minimum of a C grade in KCSE.
- v. 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

Students taking B.Sc. (MCB) must complete 48 departmental units in addition to the university common units.

#### Examinations

The general university regulations shall apply.

#### Certification

Graduates of this programme will be awarded a Bachelor of Science degree in Molecular and Cellular Biology (B.Sc. MCB).

#### Unit Code and Title

##### Level 100

SBC 100: Structure of Biomolecules

SBC 101: The Cell and its- External environment

SBC 103: Proteins and enzymes I

SBC 113: Introduction to Molecular Biology

SBC 116: Cytoskeleton I

SBC 120: Introduction to Genetics

SBC 151: Developmental Biology

SBC 212: Cell Surface and Intercellular Communication

SBT 101: Survey of Plant Kingdom

SBT 102: Plant Morphology and Anatomy

SCH 100: Fundamentals of Inorganic Chemistry

SZL 100: General Zoology

UCU Unit

**Level 200**

SBC 170: Basic Metabolism I

SBC 270: Advanced Proteins and Enzymes

SBC 203: Bio-membranes and Sub-cellular Organelles  
SBC 271: Cellular Basis of Morphogenesis  
SBC 272: Biochemistry of Tumours  
SBC 273: Cytoskeleton II SBC  
274: Cell Cycle  
SBC 275: Genome Organization I SBC  
276: Genetics II  
SBC 250: Virology  
SBC 252: Basic Immunology  
SBC 427: Fundamentals of Bioinformatics  
UCU Unit

**Level 300**

SBC 312: Genome Organization II  
SBC 313: Experiments in DNA Identification and Molecular Genetics SBC  
314: Human Disease and the Development of Therapeutic Agents SBC 315:  
Advanced Cell Biology Laboratory (in lieu of 352N)  
SBC 370: Advanced Biochemistry Laboratory  
SBC 371: Fundamentals of Microbiology  
SBC 318: Molecular Biology of Eukaryotic Cells  
SBC 321: Gene mapping techniques  
SBC 322: Plant tissue culture  
SBC 350: Cytoskeleton III  
SBC 351: Genetic Engineering and Functional Genomics SBC  
373: Attachment/Practicum (in lieu of SBC 315) SBC 353:  
Molecular Immunology

**Level 400**

SBC 403: Advanced Immunology  
SBC 406: Pharmaceutical Chemistry  
SBC 411: Advanced Eukaryotic Genetics  
SBC 412: Principles of Genomics  
SBC 470: Principles of Organic Spectroscopy  
SBC 416: Membrane Biology Cellular Biochemistry  
SBC 417: Transgenic Expression Systems SBC  
418: Introduction to Neuroscience SBC 425: Bio-  
safety and Bioethics  
SBC 428: Research Project (Two units equivalent) SBC  
471: Molecular Evolution and Bioinformatics SBC 472:  
Molecular Genetics  
UCU Unit