13.8.3 BACHELOR OF SCIENCE (BIOLOGY)

Entry Requirements
A student wishing to pursue a B.Sc degree in Biology must satisfy the minimum University entry requirements and School of Pure and Applied Sciences regulations. A student must also have passed Biology or Biological Sciences in the K.S. C. E. at the minimum grade of B-.
In addition the student must satisfy any of the following minimum requirements:

i. Either: Must have passed any two subjects from the following alternatives at the grades shown:
   Alternative B: Physical Science B-, Mathematics C, Geography B-, English C+, Agriculture B-.

ii. Or: Have a minimum of 2 principle passes, one of which must be Biology in the Kenya Advanced Certificate of Education (KACE) or equivalent,

iii. Or: Have a minimum of C plain at KCSE and a Diploma in Forestry, Education
(Biology, Agriculture), Applied Biology, Wildlife or Wetlands and with at least a credit pass from an institution recognized by the University Senate,

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

v. Or: Have any other qualification accepted by the University Senate.

Examination
The general university regulations and guidelines on retakes, special exams, semester off and discontinuation shall apply.

Grading
Examination shall include main exam constituting 70% and continuous assessment tests constituting 30%. Each course shall be graded out of 100 marks and the pass mark shall be 40. The marks shall be translated into letter grades as per University regulations.

Course Structure
The units offered under this program are listed at the end. Each unit shall comprise the equivalent of 35 contact hours. The B.Sc. (Biology) course will compose of a minimum 47 units and 3 university common units.

Certification: Graduates of this program will be awarded a Bachelor of Science Degree in Biology (BSc Biology)

Unit Code and Title

Level 100
UCU 100: Communication Skills
UCU 103: Introduction to Critical and Creative Thinking
UCU 104: Entrepreneurship
SZL 100: General Zoology
SZL 101: Introduction to Ecology and Bio-analysis
SBT 100: Cellular Basis of Life
SBT 101: Survey of Plant Kingdom
SCH 100: Fundamentals of Inorganic Chemistry
SCH 101: Introduction to Physical Chemistry
SZL 103: Introduction to Histology
SZL 106: Laboratory Methods in Biology
SBT 102: Plant morphology and Anatomy
SMA 101: Mathematics for Science II
SMA 100: Mathematics for Science I
SCH 102: Organic Chemistry

Level 200 - All Cores
SZL 200: Vertebrate Zoology
SZL 201: Invertebrate Zoology
SBT 201: Plant Function
SBT 204: Pteridophytes and Bryophytes
SZL 202: Comparative Physiology
SZL 208: Computer Applications n Biology
SZL 203: Developmental Biology  
SBT 200: Plant Ecology  
SMB 200: General Microbiology  
SZL 205: Principles of Biochemistry  
SZL 207: Essentials of Cell Biology  
SBT 205: Phytopathogens

**Level 300**  
SZL 300: Biostatistics (Core)  
SBT 300: Cell Biology and Genetics (Core) SBT  
301: Taxonomy of Higher Plants (Core) SZL  
307: Fundamentals of Immunology (Core) SZL  
304: Evolutionary Biology (Core)  
SZL 306: Human Biology (Core)  
SZL 312: Limnology  
SBT 310: Plant Physiology and Biochemistry (Core)  
SBT 309: Advanced Plant Ecology (Core)  
SZL 315: Introduction to Parasitology (Elective)  
SBT 305: Principles of Plant Pathology (Elective)  
SZL 308: Arthropod Biology (Elective)  
SZL 303: Essential of Molecular Biology  
SZL 316: Medical Microbiology (Elective)

**Level 400**  
**Core**  
SZL 400: Research Project (2 units)

**Electives**  
SZL 401: Fisheries Resource Management  
SZL 402: Marine Ecology  
SZL 403: General Entomology  
SZL 404: Integrated Pest & Vector Management  
SZL 405: Medical Protozoology  
SZL 406: Medical Helminthology  
SZL 407: Advanced Immunology  
SZL 408: Applied Immunology  
SZL 409: Environmental Physiology  
SZL 410: Neuroendocrinology  
SZL 415: Ecology for Sustainable Development  
SZL 411: Theoretical Ecology

**Areas of Specialization**

**Ecology**  
SZL 411: Theoretical Ecology  
SZL 412: Applied Ecology  
SZL 413: Population Genetics  
SZL 414: Tropical Biodiversity  
SZL 415: Ecology for Sustainable Development
SBT 402: Phycology
SBT 407: Arid Land Ecology
SBT 408: Forest Ecology
SBT 409: Rangeland Ecology
SZL 402: Marine Ecology
SBT 410: Marine Botany
SBT 411: Aquatic Botany
SZL 412: Applied Ecology

Aquatic Biology and Fisheries
SZL 401: Fisheries Resource management
SZL 402: Marine Ecology
SZL 411; Theoretical Ecology
SZL 412: Applied Ecology
SZL 413: Population Genetics
SBT 406: Evolution
SBT 402: Phycology
SBT 410: Marine Botany
SBT 411: Aquatic Botany

Biomedical and Molecular Biology
SZL 405: Medical Protozoology
SZL 406: Medical Helminthology
SZL 407: Advanced Immunology
SZL 408: Applied Immunology
SBT 419: Cytology and Molecular Biology
SBT 401: General Genetics
SBT 417: Advanced Genetics
SBT 418: Microbial Genetics
SBT 420: Biotechnology

Entomology and Pest Control
SZL 403: General Entomology
SZL 404: Integrated Pest Management
SZL 411: Theoretical Ecology
SZL 413: Population Genetics
SBT 401: General Genetics
SBT 404: Phytochemistry
SBT 412: Applied Microbiology
SBT 418; Microbial Genetics
SBT 423: Diagnosis and control of plant diseases

Physiology and Anatomy
SZL 409: Environmental Physiology
SZL 410: Neuroendocrinology
SZL 416: Physiology of Wild Mammals
SBT 403: Ecophysiology
SBT 405: Morphogenesis and Developmental Anatomy
SBT 415: Fermentation
SBT 416: Secondary Metabolism
SBT 417: Advanced Genetics
SBT 420: Biotechnology

**Genetics**
SBT 401: General Genetics SBT 417: Advanced Genetics SBT 420: Biotechnology
SZL 413: Population Genetics SZL 408: Applied Immunology SBT 418: Microbial Genetics
SBT 419: Cytology and Molecular Biology
SBT 421: Plant Breeding
SBT 425: Cell and Tissue Culture

**Microbiology**
SBT 418: Microbial Genetics
SBT 422: Virology
SBT 412: Applied Microbiology
SBT 413: Environmental Microbiology
SBT 414: Medical Microbiology SZL 405: Medical Protozoology SZL 406: Medical Helminthology
SZL 407: Advanced Immunology SZL 408: Applied Immunology