

## **BSC IN BIOLOGY**

### **PROGRAMME LEARNING OUTCOMES**

#### Knowledge and Understanding

At the end of the programme students should be able to demonstrate knowledge and understanding of:

1. basic biological concepts (from molecular, cellular, to species, ecosystems and landscapes)
2. the fundamental sciences and disciplines that support deeper understanding of and foundation in biology: physics, math and chemistry
3. understand the history of science, the future of scientific advances for problem solving, and the ethics and policies involved
4. principles of evolution
5. principles of biotechnology, microbiology, conservation biology and biodiversity, including interdisciplinary aspects (e.g., role of social and political sciences)
6. cellular, microbial, animal and plant diversity, taxonomy and functioning

#### Cognitive/Intellectual skills/Application of Knowledge

At the end of the programme students should be able to:

7. describe the distribution of biological diversity in Rwanda, and the value of, policies and socio-economic factors affecting biological diversity
8. develop a research program to solve an environmental or biological problem
9. apply theoretical concepts in the interpretation of biological systems – their function and structure
10. define the most urgent research needs in biology
11. apply biological concepts and theories learned in classes to biological and environmental problems and needs in Rwanda

12. interpret lab experiment and field or data collection results, data analyses and present results and conclusions in a clear, concise manner

#### Communication/ICT/Numeracy/Analytic Techniques/Practical Skills

At the end of the programme students should be able to:

13. identify the components and functions of cells, organs, organisms, species, and biological systems (e.g., populations, communities, ecosystems, landscapes)
14. identify careers in biological sciences
15. use scientific apparatus and equipment, both lab and field, with skill and confidence
16. analyse data quantitatively and qualitatively
17. ability to synthesize and present material orally in a concise and interesting manner

#### General transferable skills

At the end of the programme students should be able to:

18. interact with professionals from their field
19. carry out laboratory or field work effectively and professionally
20. work effectively in groups
21. use with ease computers, software, and the internet
22. locate and synthesize bibliographic material
23. write research proposals, including design and collecting and analysing data