Research in Life Science encompasses the scientific study of living organisms and their life processes.

CAREERS IN BIOCHEMISTRY & MICROBIOLOGY

Qualified Biochemists and Microbiologists find themselves working at universities, Industries and Research centers as Research Assistant, Food, Industrial, or environmental microbiologists, quality assurance technologists, Clinical and veterinary microbiologist, medical technologists, Supervisor or laboratory manager, Research manager or associate, Instructor, Scientist, University or college professor, Academic science administrator, Research director, Corporate executive, Science advisor or administrator.

CONTACT DETAILS

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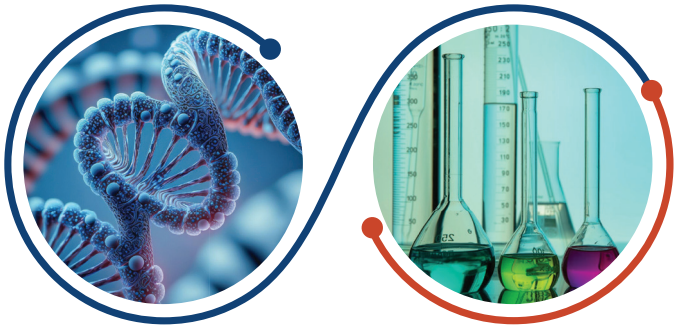
University of Venda

Creating Future Leaders

FACULTY OF SCIENCE, ENGINEERING AND AGRICULTURE

Department of Biochemistry & Microbiology



INTRODUCTION TO BIOCHEMISTRY & MICROBIOLOGY

Biology is the study of living organisms. Biology includes many sub-disciplines, such as microbiology and biochemistry. Microbiology and biochemistry are fascinating fields with significant practical applications, offering diverse career paths and a chance to contribute to solving global challenges. They are particularly relevant in areas like medicine, agriculture, and biotechnology.

WHAT IS BIOCHEMISTRY & MICROBIOLOGY?

Microbiology explores the world of microorganisms, which have a profound impact on our lives, from our health and food production to the environment. It allows us to understand how microbes cause disease, how they contribute to the food industry, and how they can be harnessed for beneficial purposes like producing biodegradable plastics or cleaning up pollutants.

Biochemistry, on the other hand, delves into the chemical processes that govern life at a molecular level. It examines the structures and functions of molecules like proteins, lipids, and nucleic acids, which are essential for all living things. Biochemistry helps us understand how these molecules work together to perform life's fundamental processes, such as enzyme function and DNA replication.

ENTRY REQUIREMENTS

Applicants wishing to pursue B.Sc. degree in chemistry must have obtained a minimum admission requirement in a National Senior Certificate (NSC) as certified by the Council for General and Further Education and Training (UMALUSI) with an achievement rating of 4 (adequate achievement, 50-59%) or better in each of the following four recognized 20-credit NSC subjects: English, Mathematics, Physical Sciences and Life Sciences.

UNDERGRADUATE PROGRAMME AND MODULES

To major in Biochemistry or Microbiology a student can choose a stream from the 4 BSc degrees: Generic BSc degrees (BSc):

- BSc (BIOCHEMISTRY AND MICROBIOLOGY) **CODE:** MNBBSA
- BSc (BIOCHEMISTRY AND BIOLOGY) **CODE:** MNBBSD
- BSc (MICROBIOLOGY AND BOTANY) **CODE:** MNBBSE
- BSc (CHEMISTRY AND BIOCHEMISTRY) **CODE:** MNBBSL

To major in Biochemistry, a student must register the following modules: Second year class: BCM 2121, BCM 2122, BCM 2221 and BCM 2222 | Third year class: BCM 3121, BCM 3122, BCM 3221 and BCM 3222

To major in Microbiology, a student must register the following modules: Second year class: MBY 2121, MBY 2122, BMY 2223 and MBY 2224 | Third year class: MBY 3126, MBY 3127, MBY 3228 and MBY 3229

POSTGRADUATE STUDIES

After an obtainment of a junior degree with Biochemistry and/or Microbiology as a major, students with Biochemistry or Microbiology 3rd year modules average of 60% or more can pursue a BSc honours degree in Biochemistry or Microbiology, which is done over one year.

MSC AND PHD IN BIOCHEMISTRY & MICROBIOLOGY

The department offers both MSc and PhD degrees across the following sections; namely Biochemistry, Life Science and Microbiology.

Research in Biochemistry includes Metabolism, Enzyme function, Gene expression, and the Molecular basis of diseases. Research in Microbiology includes Soil health and nutrient cycling, Plant–microbe dynamics, Crop pathogens, Gut microbiology in farm animals, Animal pathogens, Food spoilage, and Food safety and human diseases and Waste reduction and management.