

University of Pretoria Yearbook 2022

Introduction to proteins and enzymes 251 (BCM 251)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	12.00
NQF Level	06
Programmes	BDietetics BSc (Biochemistry) BSc (Biotechnology) BSc (Chemistry) BSc (Culinary Science) BSc (Ecology) BSc (Entomology) BSc (Food Science) BSc (Genetics) BSc (Geography and Environmental Science) BSc (Human Genetics) BSc (Human Physiology) BSc (Human Physiology, Genetics and Psychology) BSc (Medical Sciences) BSc (Microbiology) BSc (Nutrition) BSc (Plant Science) BSc (Zoology) BScAgric (Animal Science) BScAgric (Applied Plant and Soil Sciences) BScAgric (Plant Pathology)
Service modules	Faculty of Health Sciences
Prerequisites	CMY 117 GS and CMY 127 GS and MLB 111 GS



Contact time	1 tutorial per week, 2 lectures per week
Language of tuition	Module is presented in English
Department	Biochemistry, Genetics and Microbiology
Period of presentation	Semester 1

Module content

Structural and ionic properties of amino acids. Peptides, the peptide bond, primary, secondary, tertiary and quaternary structure of proteins. Interactions that stabilise protein structure, denaturation and renaturation of proteins. Introduction to methods for the purification of proteins, amino acid composition, and sequence determinations. Enzyme kinetics and enzyme inhibition. Allosteric enzymes, regulation of enzyme activity, active centres and mechanisms of enzyme catalysis. Examples of industrial applications of enzymes and in clinical pathology as biomarkers of diseases. Online activities include introduction to practical laboratory techniques and Good Laboratory Practice; techniques for the quantitative and qualitative analysis of biological molecules; enzyme activity measurements; processing and presentation of scientific data.

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