

# University of Pretoria Yearbook 2022

## Introduction to proteins and enzymes 251 (BCM 251)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	Faculty of Natural and Agricultural Sciences
<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Programmes</b>	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)
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	CMY 117 GS and CMY 127 GS and MLB 111 GS

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