

University of Pretoria Yearbook 2025

Foundational biology 147 (BIO 147)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	8.00
NQF Level	05
Programmes	BSc in Chemistry 4-year programme BSc in Ecology 4-year programme BSc in Geoinformatics 4-year programme BSc in Geology 4-year programme BSc in Human Physiology 4-year programme BSc in Mathematics 4-year programme BSc in Meteorology 4-year programme BSc in Physics 4-year programme BScAgric in Applied Plant and Soil Sciences 5-year programme BScAgric in Plant Pathology 5-year programme
Prerequisites	Admission to relevant programme
Contact time	1 tutorial fortnightly, Foundation Course, 1 practical fortnightly, 2 lectures per week
Language of tuition	Module is presented in English
Department	Department of Plant and Soil Sciences
Period of presentation	Semester 2

Module content

In this module, students will explore various aspects of biology and ecology, starting with metabolic pathways like cellular respiration and photosynthesis, elucidating how cells obtain and utilize energy. They will delve into evolutionary principles such as natural selection, adaptation, and speciation, and their role in shaping the diversity of life. The concept of taxonomy will be introduced, clarifying its role in categorizing organisms based on shared characteristics. Additionally, students will explore the tree of life as a visual representation of the evolutionary lineage of all living beings. Ecological concepts such as trophic levels, biodiversity hotspots, and ecosystem services will be discussed to emphasize their critical role in sustaining life on Earth. The module will also showcase Africa's remarkable biodiversity, ranging from its megafauna to its diverse array of plant and microbial life. Students will delve into conservation ecology within the context of Africa, analyzing strategies aimed at preserving biodiversity, addressing human-wildlife conflicts, and fostering sustainable development practices. Lastly, the module will address global challenges such as food security and climate change, examining their profound implications for humanity's future.

General Academic Regulations and Student Rules

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations. The G Regulations are updated annually and may be amended after the publication of this information.

Regulations, degree requirements and information

The faculty regulations, information on and requirements for the degrees published here are subject to change and may be amended after the publication of this information.

University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQSF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.