

University of Pretoria Yearbook 2016

Phytomedicine 365 (BOT 365)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BSc Biochemistry
	BSc Biotechnology
	BSc Chemistry
	BSc Environmental Sciences
	BSc Genetics
	BSc Geography
	BSc Geoinformatics
	BSc Human Genetics
	BSc Human Physiology
	BSc Meteorology
	BSc Microbiology
	BSc Plant Science
Service modules	Faculty of Education
Prerequisites	BOT 161 or TDH
Contact time	2 lectures per week, 1 practical per week
Language of tuition	English
Academic organisation	Plant and Soil Sciences
Period of presentation	Semester 2

Module content

The module will include a review on the discovery and use of plant medicines and phyto-therapeutically important molecules obtained from plants. Certain aspects of natural product chemistry i.e. the biosynthesis, ecological role and toxicity of the three main classes of secondary compounds; terpenoids, phenolics, and alkaloids are discussed. An introduction to the principles and applications of metabolomics are presented. The role of these natural products in defence against microorganisms and herbivores is reviewed during the module. The basics of alternative medicines such as homeopathy, ayurvedic medicine, acupuncture etc. are also discussed. Practical sessions on drug discovery approaches using chromatographic techniques for phytochemical analysis of secondary metabolites such as tannins, alkaloids, sterols and saponins are conducted. Bioassays on micro-organisms are also done during the practical sessions in order to develop the skills for the potential discovery of new antibiotics. Visits to several pharmaceutical laboratories are arranged.

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