



# Universiteit van Pretoria Jaarboek 2018

## Fitomedisyne 365 (BOT 365)

**Kwalifikasie** Voorgraads

**Fakulteit** [Fakulteit Natuur- en Landbouwetenskappe](#)

\*Hierdie inligting is slegs in Engels beskikbaar.

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 is presented. The role of these natural products in defense against microorganisms and herbivores is reviewed during the module. The importance of ethnobotany and phylogenetics in modern drug discovery from biodiversity will be presented along with legal and ethical considerations surrounding bioprospecting. This will follow on with modern theories and practices regarding sustainable utilisation and conservation of medicinal plants. The basics of alternative medicines, with an emphasis on traditional African and Chinese medicines, are also discussed as well as current evidence-based research and product development derived from these. Biotechnological approaches to medicinal natural product production, 'farmer to pharma', will be covered, including plant cell culture and bioreactors. Practical sessions on drug discovery approaches using chromatographic techniques for phytochemical analysis of secondary metabolites such as tannins, alkaloids, 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.

### Module-inhoud

**Modulekrediete** 18.00

**Programme** [BSc Biochemie](#)

[BSc Biotegnologie](#)

[BSc Genetika](#)

[BSc Mensgenetika](#)

[BSc Mikrobiologie](#)

[BSc Plantkunde](#)

**Diensmodules** Fakulteit Opvoedkunde

**Voorvereistes** BOT 161 of toestemming van die departementshoof

**Kontaktyd** 2 lesings per week, 1 praktiese sessie per week

**Onderrigtaal** Module word in Engels aangebied

**Departement** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 2



Die inligting wat hier verskyn, is onderhewig aan verandering en kan na die publikasie van hierdie inligting gewysig word.. Die [Algemene Regulasies \(G Regulasies\)](#) is op alle fakulteite van die Universiteit van Pretoria van toepassing. Dit word vereis dat elke student volkome vertrouwd met hierdie regulasies sowel as met die inligting vervat in die [Algemene Reëls](#) sal wees. Onkunde betreffende hierdie regulasies en reëls sal nie as 'n verskoning by oortreding daarvan aangebied kan word nie.