

# Universiteit van Pretoria Jaarboek 2017

## BScHons Medisinale Plantwetenskap (02240706)

**Duur van studie** 1 jaar

**Totale krediete** 135

### Programinligting

Hierdie inligting is slegs in Engels beskikbaar.

The programme consists of compulsory modules (30 credits) and elective modules (60 credits). Students may register for modules to the maximum of 20 credits presented by another department, which forms part of the elective modules.

Apart from the compulsory and elective modules, a project, leading to a research report (60 credits), forms an essential part of the programme. One seminar (15 credits) must also be written and presented. Field excursions are undertaken. In addition to the compulsory modules, electives are selected in consultation with the supervisor.

*Hierdie inligting is slegs in Engels beskikbaar*

### Renewal of registration

1. Subject to exceptions approved by the Dean, on the recommendation of the head of department, and in the case of distance education where the Dean formulates the stipulations that will apply, a student may not sit for an examination for the honours degree more than twice in the same module.
2. A student for an honours degree must complete his or her study, in the case of full-time students, within two years and, in the case of after-hours students, within three years of first registering for the degree and, in the case of distance education students, within the period stipulated by the Dean. Under special circumstances, the Dean, on the recommendation of the head of department, may give approval for a limited extension of this period.

In calculating marks, General Regulation G.12.2 applies.

Apart from the prescribed coursework, a research project is an integral part of the study.

### Toelatingsvereistes

BSc in Plantkunde of 'n aanbeveling van die departementshoof indien die kandidaat nie in Plantkunde gespesialiseer het nie. 'n Minimum van 60% in BOT 365, wat aangebied word in die derde jaar vlak in die Departement Plant- en Grondkunde.

Die aanbevole modules op BSc derdejaarsvlak is soos volg:

1. BOT 366 Plantdiversiteit (Departement Departement Plant- en Grondkunde)
2. BOT 356 Plant ekofisiologie (Departement Departement Plant- en Grondkunde)
3. BCM 368 Molekulêre basis vir siekte (Departement Biochemie)
4. BCM 357 Biokatalise en integrasie van metabolisme (Departement Biochemie)



5. FAR 382 Farmakologie (Departement van Farmakologie)
6. CMY 282 Fisiese Chemie (Departement Chemie)
7. CMY 284 Organiese chemie (Departement Chemie)

## Slaag met lof

The BScHons degree is awarded with distinction to a candidate who obtains a weighted average of at least 75% in all the prescribed modules and a minimum of 65% in any one module.



## Kurrikulum: Finale jaar

Minimum krediete: 135

### Kernmodules

#### Seminaar 783 (BOT 783)

**Modulekrediete** 15.00

**Voorvereistes** Geen voorvereistes.

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 1

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Literature study, discussion and oral presentation of a subject related to the main discipline.

#### Gevorderde fitomedisyne 761 (BOT 761)

**Modulekrediete** 10.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 1 lesing per week, 1 ppraktiese sessie per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 2

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Metabolism and functions of secondary compounds such as tannins, alkaloids, terpenoids, flavonoids and free amino acids. Importance of secondary compounds in the defence mechanisms of plants. Isolation and identification of medicinal bioactive compounds from plants. Their current scope and potential applications in ethnobotany. Strategies to discover new pharmaceuticals from ethnomedicine.

#### Fitofarmakologie 748 (BOT 748)

**Modulekrediete** 10.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 1 praktiese sessie per week, 1 besprekingsklas per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 1



## Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Pharmacological action of low molecular plant constituents and high molecular weight compounds. Plant constituents as anticancer, antibacterial, antiviral, hypoglycaemic, freeradical scavengers, hypotensive and as anti-inflammatory agents. Cell culturing, cell growth and apoptosis, cell mediated immune responses. Drug development in TB as models for research. Enzymes, receptors and plant constituents. The unique challenges of plant-based medicines.

## Farmakognosie/Fitoterapie 749 (BOT 749)

**Modulekrediete** 10.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 1 besprekingsklas per week, 1 praktiese sessie per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 1

## Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Basic concepts of toxicology. Systemic, developmental, genetic and organ-specific toxic effects. Hallucinogenic, allergenic, teratogenic and other toxic plants. Plant constituents, contradictions and interactions. Phytotoxicity unrelated to plant constituents. Safety and efficacy issues of commonly used Phyto-drugs with emphasis on pharmaceutical applications. Practical aspects related to the manufacture of good quality plant-based medicines. Phyto-drug formulation, standardisation and aspects concerning different dosage forms.

## Navorsingsverslag 782 (BOT 782)

**Modulekrediete** 60.00

**Voorvereistes** Geen voorvereistes.

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 1

## Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Teaching and planning, execution and documentation of a research project.

## Keusemodules

### Saadekologie 714 (BOT 714)

**Modulekrediete** 10.00



<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	1 ppraktiese sessie per week, 1 webgebaseerde periode per week, 1 lesing per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 2

#### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Regeneration of plants from seed under natural conditions. Early stages in the life of a plant from ovule to established seedling: seed production; seed predation; seed dispersal; seed germination and dormancy, seed bank dynamics and seedling establishment.

### **Spatial analysis in ecology 788 (BOT 788)**

<b>Modulekrediete</b>	10.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	2 lesings per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 2

#### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Mapping and analysing spatial data. Theory and basic techniques of analysing and manipulating spatial data using geographical information systems. Mapping of vegetation types, species distributions and diversity, species traits. Understanding the spatial drivers of biodiversity patterns. The influence of scale on biodiversity analyses. Relevance for conservation planning for mapping biodiversity risk and prioritising conservation, especially in a South African context.

### **Inleidende plantbiotegnologie 718 (BOT 718)**

<b>Modulekrediete</b>	10.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	1 lesing per week, 1 praktiese sessie per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 1



## Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Plant genome: structure and composition of the plant genome (nuclear, mitochondrial and chloroplast); applications in plant biotechnology: plant tissue culture (microproagation, somatic embryogenesis and cell suspension cultures). Genetic manipulation and gene transfer technology (Agrobacterium-based and other) and DNA-marker technology.

## Praktiese plantidentifikasie 786 (BOT 786)

<b>Modulekrediete</b>	10.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	2 lesings per week, 2 praktiese sessies per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 1

## Module-inhoud

Beginsels van identifikasie, klassifikasie en nomenklatuur; identifikasie van plante; familieherkenning; versameling van planteksemplare vir identifikasie; herbarium as inligtingsbron. Variasie in saadplante en voortplantingsisteme. Praktiese werk behels ook

## Biometrie 780 (BME 780)

<b>Modulekrediete</b>	15.00
<b>Diensmodules</b>	Fakulteit Natuur- en Landbouwetenskappe
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	2 Blokweke
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Statistiek
<b>Aanbiedingstydperk</b>	Semester 1

## Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

The principles of experimental design as required for the selection of an appropriate research design. Identification of the design limitations and the impact thereof on the research hypotheses and the statistical methods. Identification and application of the appropriate statistical methods needed. Interpreting of statistical results and translating these results to the biological context.

## Primêre plantmetabolisme 719 (BOT 719)

<b>Modulekrediete</b>	10.00
<b>Voorvereistes</b>	Geen voorvereistes.



**Kontaktyd** 1 praktiese sessie per week, 1 besprekingsklas per week, 1 webgebaseerde periode per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 1

#### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Regulation and interaction of primary plant metabolic pathways on the sub-cellular and whole plant level.

### **Plantklassifikasie 742 (BOT 742)**

**Modulekrediete** 20.00

**Voorvereistes** Geen voorvereistes.

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

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 2

#### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Sources of taxonomic information; morphology, anatomy, chemotaxonomy, cytogenetics, reproductive biology, plant geography, palynology, ethnobotany and paleobotany. Importance of different characteristics, methods to obtain information and interpretation of observed patterns in variation.

### **Plantnomenklatuur 712 (BOT 712)**

**Modulekrediete** 10.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 1 lesing per week, 1 ppraktiese sessie per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Plant- en Grondwetenskappe

**Aanbiedingstydperk** Semester 1

#### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

The regulations of the International Code for Botanical Nomenclature. Principles of nomenclature. History of plant collecting. Type specimens.

### **Plantmorfologie 717 (BOT 717)**

**Modulekrediete** 10.00



<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	1 lesing per week, 1 ppraktiese sessie per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 1

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Speciation in flowering plants; plant variation. Sex determination in flowering plants. Reproductive systems in flowering plants.

### Planttaksonomie 741 (BOT 741)

<b>Modulekrediete</b>	10.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	1 ppraktiese sessie per week, 1 lesing per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 2

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Classification, identification and nomenclature, methodology of a revision study, analysis and presentation of taxonomic information, evolution, phylogeny and cladistics.

### Toepassings in plantbiotegnologie 746 (BOT 746)

<b>Modulekrediete</b>	10.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	1 praktiese sessie per week, 1 lesing per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 2

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Creation of genetically modified plants and their impact on modern agriculture.

### Trends in plant science784 (BOT 784)

<b>Modulekrediete</b>	10.00
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<b>Voorvereistes</b>	Geen voorvereistes.
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Plant- en Grondwetenskappe
<b>Aanbiedingstydperk</b>	Semester 2

### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Literature study of recent publications in a subject related to one of the elective disciplines.

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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.