

# University of Pretoria Yearbook 2016

## BScHons Option: Environmental Soil Science (03240902)

**Duration of study** 1 year

**Total credits** 135

### Programme information

The honours degree is awarded on the basis of formal modules passed. Students registered for the BScHons in Soil Science [Option: Environmental Soil Science] will register for all the soil science modules prescribed at honours level, as well as any other modules deemed necessary by the head of department.

#### Renewal of registration

- i. 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.
- ii. 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.

### Admission requirements

In addition to the requirements of the General Regulations an appropriate bachelor's degree is a prerequisite. Soil science at an undergraduate level is required, namely: Introductory soil science, Pedology and Soil chemistry. It is at the discretion of the head of department to prescribe any other modules deemed necessary, or to exempt a prospective student from specific requirements.

### Pass with distinction

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.

## Curriculum: Final year

Minimum credits: 135

### Core modules

#### Crop production systems (I): Field crops 785 (AGR 785)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 2 lectures per week
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc
<b>Period of presentation</b>	Semester 2

##### Module content

Integrated agronomic, climatic, soil, botanical, economic and managerial considerations in crop production systems aimed at maximum economic yield and sustainability. Case studies of specific field crops.

#### Advanced environmental soil chemistry 771 (GDK 771)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc
<b>Period of presentation</b>	Year

##### Module content

Advanced theoretical and experimental soil chemistry, including the organic fraction.

#### Advanced environmental soil physics 772 (GDK 772)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc
<b>Period of presentation</b>	Year

##### Module content

Advanced theoretical soil physics with the emphasis on mathematical modelling of fluxes of water, heat and solutes.

#### Plant nutrition, soil biology and soil fertility 773 (GDK 773)

<b>Module credits</b>	15.00
-----------------------	-------



<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc
<b>Period of presentation</b>	Year

#### **Module content**

Study of the latest trends and developments in plant nutrition, soil biology and soil fertility.

### **Project in environmental soil science 775 (GDK 775)**

<b>Module credits</b>	30.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc
<b>Period of presentation</b>	Year

#### **Module content**

Research project on a practical aspect of Environmental Soil Science. Literature review, formulation of a problem statement, hypotheses and aims of the research, as well as the design and execution of a laboratory or field scale trial. Project to be written up in a specific scientific format suitable for publication with an oral and visual presentation on the research.

### **Scientific communication 702 (PGW 702)**

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week, 2 seminars
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc
<b>Period of presentation</b>	Year

#### **Module content**

Principles of the scientific process. Literature accessing and article assessment. Manuscript preparation and presentation of seminars. Use of visual aids.

### **Research methodology 704 (PGW 704)**

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 2 lectures per week
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Plant Production and Soil Sc



---

<b>Period of presentation</b>	Semester 2
-------------------------------	------------

**Module content**

Basic experimental designs. Measurements and control over experimental error. Factorial experiments and interactions. Analysis of variance (ANOVA) and data interpretation.

**Environmental biophysics 750 (LKM 750)**

<b>Module credits</b>	15.00
-----------------------	-------

<b>Prerequisites</b>	No prerequisites.
----------------------	-------------------

<b>Contact time</b>	2 lectures per week, 1 practical per week
---------------------	---

<b>Language of tuition</b>	English
----------------------------	---------

<b>Academic organisation</b>	Plant Production and Soil Sc
------------------------------	------------------------------

<b>Period of presentation</b>	Semester 1
-------------------------------	------------

**Module content**

Environmental variables. Quantitative description and measurements of atmospheric environmental variables and water in organisms. Mass and energy fluxes. Quantitative description of energy fluxes in organisms' environments. Energy balances of animals and plant communities will be derived.

---

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.