



# Universiteit van Pretoria Jaarboek 2017

## MSc Waterhulpbronbestuur (Gedoseer) (02250406)

**Duur van studie** 2 jaar

**Totale krediete** 180

### Programinligting

Hierdie inligting is slegs in Engels beskikbaar.

The Centre for Environmental Studies is a graduate school for multidisciplinary training and research focusing on the environment. Training aims to satisfy the need for environmental professionals for implementing current environmental legislation as well as industry-driven environmental management systems.

This programme is coordinated by the Department of Microbiology and Plant Pathology.

The purpose of this focus area is to train environmental graduates who specialised in careers in the sustainable management of water resources. On completion of the training, candidates should be conversant and be able to partake in, or render advice concerning, all aspects involved in water resource management in Southern Africa. This includes principles of quality management, water conservation, water demand management, water supply and sanitation technologies.

The MSc degree is conferred on the grounds of a dissertation and such additional postgraduate coursework as may be prescribed.

### Renewal of registration

As long as progress is satisfactory, renewal of the registration of a master's student will be accepted for the second year of the study. Registration for a third and subsequent years will only take place when the Student Administration of the Faculty receives a written motivation that is supported by the head of department and Postgraduate Studies Committee.

### General

Candidates are required to familiarise themselves with the General Regulations regarding the maximum period of registration and the requirements on the submission of a draft article for publication.

### Addisionele vereistes

Candidates must demonstrate proficiency in the English language up to the level required by either the TOEFL test ([www.ets.org/toefl](http://www.ets.org/toefl)) or the IELTS language proficiency test ([www.ielts.org](http://www.ielts.org)).

### Ander programspesifieke inligting

At least one additional elective module must be selected in consultation with the Director of the Centre and the Head of the Department of Microbiology and Plant Pathology. Choice of electives will be based on the academic background and/or anticipated career of the candidate.



## Bevordering tot volgende studiejaar

The progress of all master's candidates is monitored biannually by the supervisor and the postgraduate coordinator. A candidate's study may be terminated if the progress is unsatisfactory or if the candidate is unable to finish his/her studies during the prescribed period.

Subject to exceptions approved by the dean, on recommendation of the head of department, and where applicable, a student may not enter for the master's examination in the same module more than twice.

## Slaag met lof

The MSc degree is conferred with distinction to candidates who obtain a final average mark of at least 75% and a mark of at least 75% for the dissertation/mini-dissertation from each of the members of the examination panel. Where a member of the examination panel awards a mark of less than 75% for the dissertation/mini-dissertation, that member of the examination panel must offer, in writing, support for his/her decision, or indicate in writing that he/she supports the examination committee's decision to confer the degree with distinction.



## Kurrikulum: Jaar 1

Minimum krediete: 180

### Kernmodules

#### Waterbewing- en aanvraagbestuur 821 (EWM 821)

<b>Modulekrediete</b>	15.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	20 besprekingsklasse
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademieorganisasie</b>	Mikrobiologie en Plantpat
<b>Aanbiedingstydperk</b>	Semester 2

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Public access to information regarding water quality, water supply sustainability and public education, demand projections, water management efficiency systems approach to water management, watershed protection, drinking water treatment and distribution, wastewater collection and treatment, effects of deforestation and treatment, and complex water system developments, destruction of wetlands, effects of recreation, agriculture and aquaculture on eutrophication.

#### Watervoorsiening en sanitasie 822 (EWM 822)

<b>Modulekrediete</b>	15.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	20 besprekingsklasse
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademieorganisasie</b>	Mikrobiologie en Plantpat
<b>Aanbiedingstydperk</b>	Semester 2

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Low technology water treatment options, sanitary engineering, high technology options, water disinfection methods, selection of treatment regimes, stormwater management.

#### Omgewingsparadigmas 810 (ENV 810)

<b>Modulekrediete</b>	15.00
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	5 besprekingsklasse per week
<b>Onderrigtaal</b>	Module word in Engels aangebied



**Akademiese organisasie** Dierkunde en Entomologie

**Aanbiedingstydperk** Semester 1

### Module-inhoud

Omgewingsfilosofie en etiek. Omgewingsekologie, omgewing, gemeenskap en ontwikkeling, omgewingsekonomie, kritiese hulpbronbestuur. Waterbenutting, lug-kwaliteitsbeheer, beplanning van landbenutting. Kenmerke van grond. Beplanning van biodiversiteit. Determinisme versus ko-evolusionêre omgewingsraamwerke. Navorsings-metodologie en -praktyk.

## Omgewingsreg 816 (ENV 816)

**Modulekrediete** 15.00

**Diensmodules** Fakulteit Regsgeleerdheid

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 1 webgebaseerde periode per week, 2 praktiese sessies per week, 1 lesing per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Dierkunde en Entomologie

**Aanbiedingstydperk** Semester 1 of Semester 2

### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Legislation for sustainable development within the framework of international agreements, the different acts affecting water quality and water use, the SEMAs within the NEMA framework, the NEMA EIA regulations, legislation pertaining to hazardous substances, interaction between mining development and NEMA, energy law, strategic environmental legislation, marine and coastal management.

## Miniverhandeling 891 (ENV 891)

**Modulekrediete** 90.00

**Voorvereistes** Geen voorvereistes.

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Dierkunde en Entomologie

**Aanbiedingstydperk** Jaar

### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

The student needs to conduct a research project under the supervision of an academic member of staff associated with the Centre for Environmental Studies. This project needs to be of a sufficient quality to be publishable in the open scientific literature. The research report is examined as a manuscript for a suitable journal.

## Waterkwaliteitsbestuur 810 (EWM 810)

**Modulekrediete** 15.00



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<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	20 besprekingsklasse
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Mikrobiologie en Plantpat
<b>Aanbiedingstydperk</b>	Semester 2

### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Severity of waterborne disease, accurate risk analysis, emergence of pathogens resistant to disinfection, the use of indicator organisms, toxicity risks, viral and protozoal contamination, water borne diseases surveillance, epidemiology of water borne diseases, water quality standards and monitoring, education.



## Kurrikulum: Finale jaar

Minimum krediete: 180

### Kernmodules

#### Miniverhandeling 891 (ENV 891)

**Modulekrediete** 90.00

**Voorvereistes** Geen voorvereistes.

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Dierkunde en Entomologie

**Aanbiedingstydperk** Jaar

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

The student needs to conduct a research project under the supervision of an academic member of staff associated with the Centre for Environmental Studies. This project needs to be of a sufficient quality to be publishable in the open scientific literature. The research report is examined as a manuscript for a suitable journal.

#### Waterkwaliteitsbestuur 810 (EWM 810)

**Modulekrediete** 15.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 20 besprekingsklasse

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Mikrobiologie en Plantpat

**Aanbiedingstydperk** Semester 2

#### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Severity of waterborne disease, accurate risk analysis, emergence of pathogens resistant to disinfection, the use of indicator organisms, toxicity risks, viral and protozoal contamination, water borne diseases surveillance, epidemiology of water borne diseases, water quality standards and monitoring, education.

#### Watervoorsiening en sanitasie 822 (EWM 822)

**Modulekrediete** 15.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 20 besprekingsklasse

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Mikrobiologie en Plantpat



**Aanbiedingstydperk** Semester 2

### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Low technology water treatment options, sanitary engineering, high technology options, water disinfection methods, selection of treatment regimes, stormwater management.

## Omgewingsparadigmas 810 (ENV 810)

**Modulekrediete** 15.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 5 besprekingsklasse per week

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Dierkunde en Entomologie

**Aanbiedingstydperk** Semester 1

### Module-inhoud

Omgewingsfilosofie en etiek. Omgewingsekologie, omgewing, gemeenskap en ontwikkeling, omgewingsekonomie, kritiese hulpbronbestuur. Waterbenutting, lug-kwaliteitsbeheer, beplanning van landbenutting. Kenmerke van grond. Beplanning van biodiversiteit. Determinisme versus ko-evolutionêre omgewingsraamwerke. Navorsings-metodologie en -praktyk.

## Waterbewing- en aanvraagbestuur 821 (EWM 821)

**Modulekrediete** 15.00

**Voorvereistes** Geen voorvereistes.

**Kontaktyd** 20 besprekingsklasse

**Onderrigtaal** Module word in Engels aangebied

**Akademiese organisasie** Mikrobiologie en Plantpat

**Aanbiedingstydperk** Semester 2

### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

Public access to information regarding water quality, water supply sustainability and public education, demand projections, water management efficiency systems approach to water management, watershed protection, drinking water treatment and distribution, wastewater collection and treatment, effects of deforestation and treatment, and complex water system developments, destruction of wetlands, effects of recreation, agriculture and aquaculture on eutrophication.

## Omgewingsreg 816 (ENV 816)

**Modulekrediete** 15.00

**Diensmodules** Fakulteit Regsgeleerdheid

**Voorvereistes** Geen voorvereistes.



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<b>Kontaktyd</b>	1 webgebaseerde periode per week, 2 praktiese sessies per week, 1 lesing per week
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Dierkunde en Entomologie
<b>Aanbiedingstydperk</b>	Semester 1 of Semester 2

### **Module-inhoud**

\*Hierdie inligting is slegs in Engels beskikbaar.

Legislation for sustainable development within the framework of international agreements, the different acts affecting water quality and water use, the SEMAs within the NEMA framework, the NEMA EIA regulations, legislation pertaining to hazardous substances, interaction between mining development and NEMA, energy law, strategic environmental legislation, marine and coastal management.

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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 vertrou 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.