Universiteit van Pretoria Jaarboek 2017

MSc Lugkwaliteitbestuur (Gedoseer) (02250408)

Duur van studie	2 jaar
Totale krediete	180

Programinligting

Hierdie inligting is slegs in Engels beskikbaar.

Coordinated by the Department of Geography, Geoinformatics and Meteorology.

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.

The extensions to the National Environmental Management Act (NEMA) promulgated after 2005 affect environmental management in South Africa in a profound way. In particular, the Air Quality Act brings South African legislation into line with international trends. The metro councils are charged with the responsibility of implementing the Act at the local level. In addition, companies need appropriate expertise to obtain licenses for their air quality management plans. This focus area serves to provide suitable expertise for the implementation of the above legislation by industry by training graduates specialised for careers in air quality management. On completion of the training, candidates should be conversant and be able to partake in, or render advice concerning the legislative requirements with respect to air quality management, modelling of and measurement of air pollution and the interpretation of pollution plumes, the measurement and interpretation of chemical air pollution as well as dust pollution, international agreements and requirements as well as the effects of air pollution on humans.

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.

Toelatingsvereistes

Candidates must be in possession of an appropriate four-year degree or equivalent degree status which includes mathematics and chemistry at first-year level. Admission is subject to the approval of the Director of the Centre and the appropriate head of department outside the Centre.

Addisionele vereistes

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

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

Lugbesoedeling: omgewing en samelewing 814 (AQM 814)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

International air quality criteria and standards. Ambient air quality and meteorological monitoring. Domestic pollution. Household fuel burning. Vehicle emissions. Toxicology and physiology. Industrial pollution. Emissions inventory and report sources. Air pollution and biomass. Air pollution control. Identification of alert air quality thresholds and associate information reporting, investigation and mitigation requirements. Renewable energy. Air pollution and climate. Practical experience.

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-evolusionêre omgewingsraamwerke. Navorsings-metodologie en -praktyk.

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.

Grenslaagmeterologie 811 (AQM 811)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

Introduction to global circulation and South African weather and climate. Mathematical functions and atmospheric balance laws. Stability and mixing heights. The atmospheric boundary layer over urban and rural areas. Turbulence. Earth’s energy budget. Transfer and exchange of energy. Introduction to atmospheric and chemical dispersion modelling. Practical modelling of air pollution: Box models, Gausian puff or plume models, stochastic models, trajectory models.

Atmosferiese termodinamika 813 (AQM 813)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

Gas laws. Virtual temperature. The hydrostatic and hypsometric equations. Dry adiabatic processes. The first law of thermodynamics. Latent heat. Stabilities and instabilities. Dry adiabatic temperature lapse rate. Potential temperature. Inversion layers. Atmospheric moisture and saturated-adiabatic processes. Vapour pressure. Saturation and condensation. Dew and frost point. Relative humidity. Saturated adiabatic temperature lapse rate. Cloud and rain formation. The second law of thermodynamics

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 managment.

Atmosferiese chemie 812 (AQM 812)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

The history of atmospheric pollution. Cycles of matter and atmospheric transformations. Gaseous inorganic pollutants. Gas phase organic pollutants. Particulates. The chemistry of atmospheric environmental problems, including acid rain; global warming; ozone depletion; persistant organic pollutants; and photochemical smog. Atmospheric monitoring: sampling methods; sampling strategies; and analytical techniques.

Kurrikulum: Finale jaar

Minimum krediete: 180

Kernmodules

Grenslaagmeterologie 811 (AQM 811)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

Introduction to global circulation and South African weather and climate. Mathematical functions and atmospheric balance laws. Stability and mixing heights. The atmospheric boundary layer over urban and rural areas. Turbulence. Earth’s energy budget. Transfer and exchange of energy. Introduction to atmospheric and chemical dispersion modelling. Practical modelling of air pollution: Box models, Gausian puff or plume models, stochastic models, trajectory models.

Atmosferiese chemie 812 (AQM 812)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

The history of atmospheric pollution. Cycles of matter and atmospheric transformations. Gaseous inorganic pollutants. Gas phase organic pollutants. Particulates. The chemistry of atmospheric environmental problems, including acid rain; global warming; ozone depletion; persistant organic pollutants; and photochemical smog. Atmospheric monitoring: sampling methods; sampling strategies; and analytical techniques.

Lugbesoedeling: omgewing en samelewing 814 (AQM 814)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.

Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

International air quality criteria and standards. Ambient air quality and meteorological monitoring. Domestic pollution. Household fuel burning. Vehicle emissions. Toxicology and physiology. Industrial pollution. Emissions inventory and report sources. Air pollution and biomass. Air pollution control. Identification of alert air quality thresholds and associate information reporting, investigation and mitigation requirements. Renewable energy. Air pollution and climate. Practical experience.

Atmosferiese termodinamika 813 (AQM 813)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Geografie, Geoinf en Meteor
Aanbiedingstydperk	Jaar

Module-inhoud

* Hierdie inligting is slegs in Engels beskikbaar.

Gas laws. Virtual temperature. The hydrostatic and hypsometric equations. Dry adiabatic processes. The first law of thermodynamics. Latent heat. Stabilities and instabilities. Dry adiabatic temperature lapse rate. Potential temperature. Inversion layers. Atmospheric moisture and saturated-adiabatic processes. Vapour pressure. Saturation and condensation. Dew and frost point. Relative humidity. Saturated adiabatic temperature lapse rate. Cloud and rain formation. The second law of thermodynamics

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-evolusionêre omgewingsraamwerke. Navorsings-metodologie en -praktyk.

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.

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 managment.

Onkunde betrefffende hierdie regulasies en reels sal nie as ‘n verskoning by oortreding daarvan aangebied kan word nie.