



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

DEPARTMENT OF GEOGRAPHY, GEOINFORMATICS AND METEOROLOGY

Master's and Doctorate programmes

2019

This brochure provides information about **research-only** Master's and Doctorate programmes offered by the Department Geography, Geoinformatics and Meteorology. For **coursework** Master's programmes, visit the Department's website, <https://www.up.ac.za/geography-geoinformatics-and-meteorology>, click 'Study' in the menu on the left. This brochure includes the following information:

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1. Disciplines in the department

The Department of Geography, Geoinformatics and Meteorology offers quality education to both undergraduate and postgraduate students around the central theme of

"THE SCIENCES CONCERNING OUR CHANGING LIVING ENVIRONMENT".

The Department liaises closely with the Centre for Environmental Studies (CFES), the Centre for Geoinformation Science (CGIS) and the University of Pretoria's Water Institute. It is organised around the three disciplines in its name:

Geography is a unique discipline which encourages students to take a holistic view of the world and their place in it. It focuses on the relationships between people, their neighbourhoods and their physical and urban environments, and the ways in which these can be made more sustainable and resilient for the future. The academic staff in the Department have research expertise in a diverse range of fields, from urban systems to political economy, geomorphology to climate science, and crime analysis to education.

Geoinformatics concerns the nature and function of geographic information including its collection, storage, analysis, visualization, interpretation and distribution. Geographic information is information with implicit or explicit reference to a location relative to the Earth. Geoinformatics provides the scientific foundation for geographic information systems (GIS), i.e. the software, hardware, data, people and methods for collecting, processing, managing, analysing and visualizing geographic information. The volumes of geographic information and the use of geospatial technologies are rapidly on the increase.

Meteorology is the study of the dynamics, physics and chemistry of the earth's atmosphere, including prediction studies of atmospheric phenomena in a changing climate across a range of time and spatial scales. The time scales to describe and predict atmospheric variables range from days to seasons, and different spatial scales are used to describe and predict on local, regional, and global levels. We also study the interactions between Earth's atmosphere and its oceans, land surface and sea-ice as part of a coupled Earth system.

2. Master's and Doctorate programmes in the department

Postgraduate degrees are offered in geography, geoinformatics and meteorology, and in the following two fields:

Environment and Society. All aspects involved in the management of human-environment interactions, such as social impact assessments, policy formulation, social development and planning, participatory appraisal assessments, demographic pattern and trend interpretations, resource appraisals and management.

Air Quality Management. 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 in line with international trends. The metropolitan municipalities 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. Research topics are related to industry driven environmental management systems, the legislative requirements with respect to air quality management, modelling, measuring and interpretation of air pollution phenomena, and international agreements and requirements.

Programme	Faculty	Contact
MSc Air Quality Management PhD Air Quality Management	Natural and Agricultural Sciences	Prof Willem Landman willem.landman@up.ac.za
MA Environment and Society PhD Environment and Society	Humanities	Dr Nerhene Davis nerhene.davis@up.ac.za
MSc Environment and Society PhD Environment and Society	Natural and Agricultural Sciences	Prof Greg Breetzke greg.breetzke@up.ac.za
MA Geography PhD Geography	Humanities	Prof Greg Breetzke greg.breetzke@up.ac.za
MSc Geography PhD Geography	Natural and Agricultural Sciences	Prof Greg Breetzke greg.breetzke@up.ac.za
MSc Geoinformatics PhD Geoinformatics	Natural and Agricultural Sciences	Prof Serena Coetzee serena.coetzee@up.ac.za
MSc Meteorology PhD Meteorology	Natural and Agricultural Sciences	Prof Willem Landman willem.landman@up.ac.za

The Master's and Doctorate degrees are conferred on the grounds of a dissertation and thesis respectively, and such additional postgraduate coursework as may be prescribed. Master's students must submit a draft article based on their research, approved by the supervisor. PhD students must submit proof of submission of an article issued by an accredited journal. The submitted article should be based on the research that the student has conducted for the thesis.

Master's and Doctorate students do not have daily commitments (classes, *etc.*) and it is therefore not necessary to do these degrees on campus. However, regular discussions and interaction with the supervisor are important. While this can sometimes take place electronically, it is also important to have regular across-the-table discussions. Thus, we will not normally enter a supervisory relationship with a student who is not physically resident within reasonable proximity of the university. Alternatively, the student should be able to spend time in Pretoria for at least 6-12 months during the first year of study or commit him- or herself to regular weekly stays close to campus.

Students who work while studying should negotiate with their employers to have study leave of at least one day a week, four days a month, or two months a year.

Expected duration of a Master's is two years; the minimum period is one year. A student must work under the guidance of a study leader for at least one academic year. A Master's degree is conferred on a student only if at least one year has expired after obtaining the qualifications required for Master's study.

Expected duration of a Doctorate is three years; the minimum period is two years. A Doctorate is conferred on a student only if at least two years have expired after complying with all the requirements for a Master's degree.

Students are strongly encouraged to align their research topic to research expertise and interests of staff members with a PhD. See <https://www.up.ac.za/geography-geoinformatics-and-meteorology>, click 'About Us > Staff' in the menu on the left.

General and Faculty regulations, including duration of studies, renewal of registration, examination and pass requirements, are available in the Yearbooks at www.up.ac.za, click on 'Study at UP > Yearbooks' in the top menu. Click [General Regulations, Rules & Glossary of Terms](#) in the menu on the left for the UP Fact Finder, as well as general rules and regulations (PDF). Click 'Faculty of Natural and Agricultural Sciences > Master's' or 'Faculty of Natural and Agricultural Sciences > Doctorate' in the menu on the left and search for a specific programme. For the humanities click on 'Faculty of Humanities' and follow the same procedure.

General information for postgraduate students is available at www.up.ac.za, click 'Study at UP > Postgraduate students' in the top menu.

Contact person for student enquiries in the department: Ms Lunga Ngcongco, lunga.ngcongco@up.ac.za.

3. Admission requirements

3.1 Master's programmes

In addition to the General Regulations G.1.3, G.31 and G.62 an appropriate Honours degree is a prerequisite for admission. An average of 60% is required in the honours year of study for admission to the MSc. Additional requirements and conditions may be prescribed by the Dean on the recommendation of the supervisor, head of department and Postgraduate Studies Committee. Admission is approved by the Postgraduate Studies Committee in consultation with the head of department and the supervisor.

Admission is additionally dependent on availability of supervisor/s and/or projects within the department. An approved research proposal and an acceptable level of proficiency in English or Afrikaans is required.

Depending on the research topic, prior qualifications and experience, a student may be advised to complete the relevant Honours degree or selected modules before commencing with the Master's.

There is a selection process with the expectation that a student should have an average of 65% for the Honours modules (or fourth year of study, whichever is applicable) for admission into a Master's programme in the department.

Additional admission requirements for the different Master's programmes:

- **MSc Air Quality Management (research):** BScHons degree (or equivalent) as evaluated by the Director of the Centre for Environmental Studies and the head(s) of the particular department(s). Admission is also subject to the availability of a suitable supervisor for the study.
- **MA Environment and Society (research):** BSocSci Hons in Geography or Environmental Sciences, or equivalent Honour degree with appropriate modules completed in the field of Humanities (Social Sciences), Statistics, Town and Regional Planning, Development and Earth Sciences are also highly recommended. Final admission is subject to the approval of the Director of the Centre for Environmental Studies and the Head of the Department of Geography, Geoinformatics and Meteorology.
- **MSc Environment and Society (research):** BScHons or appropriate four-year BSc in Environmental Sciences, Earth Sciences, Geography or equivalent degrees with appropriate modules completed in the field of human-environmental interaction. Final admission is subject to the approval of the Director of the Centre for Environmental Studies and the Head of the Department of Geography, Geoinformatics and Meteorology.

- **MA Geography:** BSocSci Hons Geography or other relevant Honours or four-year BSocSci degree.
- **MSc Geography:** BScHons Geography or other relevant Honours or four-year BSc degree, such as Geoinformatics, GIS, Geomatics, Statistics, Geodesy, Surveying, Town and Regional Planning or Environmental and Earth Sciences, is required.
- **MSc Geoinformatics:** BScHons Geoinformatics or other Honours or relevant four-year BSc degree, such as Geography, GIS, Geomatics, Statistics, Geodesy, Surveying, Town and Regional Planning, Geology, Computer Science, Information Technology or Applied Mathematics, is required.
- **MSc Meteorology:** BScHons Meteorology or other relevant Honours or four-year BSc degree, such as Climatology, Physics, Applied Mathematics, Mathematics, Mathematical Statistics or Chemistry, is required.

3.4 Doctorate programmes in the Faculty of Natural and Agricultural Sciences

In addition to the requirements of General Regulations G.1.3 and G.62 an appropriate Master's degree is a prerequisite for admission to PhD studies. Additional requirements and conditions can be specified by the Dean on the recommendation of the head of department and the supervisor.

Admission is additionally dependent on availability of supervisor/s and/or projects within the department.

An approved research proposal and an acceptable level of proficiency in English or Afrikaans is required. Depending on the research topic, prior qualifications and experience, a student may be advised to complete the relevant Master's degree and/or selected Honours and/or Master's modules before commencing with the PhD.

There is a selection process with the expectation that a student should have an average of 65% or above for the Master's dissertation and peer-reviewed publications about the Master's research for admission into a Doctorate programme in the department.

Additional admission requirements for the different PhD programmes:

- **PhD Air Quality Management:** MSc Air Quality Management or other closely related MSc degree.
- **PhD Environment and Society (Humanities):** MA in Environment and Society, Geography, Town and Regional Planning or an equivalent degree with the status thereof evaluated by the Director of the Centre and the head(s) of the particular department(s).
- **PhD Environment and Society (Natural and Agricultural Sciences):** MSc Geography or other relevant MSc degree, such as Geography, Statistics, Town and Regional Planning or Environmental and Earth Sciences, is required.
- **PhD Geography (Humanities):** MA Geography, Town and Regional Planning or an equivalent degree with the status thereof evaluated by the Director of the Centre and the head(s) of the particular department(s).
- **PhD Geography (Natural and Agricultural Sciences):** MSc Geography or other relevant MSc degree, such as Geography, GIS, Geomatics, Statistics, Geodesy, Surveying, Town and Regional Planning or Environmental and Earth Sciences, is required.
- **PhD Geoinformatics:** MSc Geoinformatics or other relevant MSc degree, such as Geography, Statistics, Applied Mathematics, Geodesy, Surveying, Town and Regional Planning, Geology, Computer Science, Information Technology or Applied Mathematics, is required.
- **PhD Meteorology:** MSc Meteorology or other relevant MSc degree such as Climatology, Physics, Applied Mathematics, Mathematics, Mathematical Statistics or Chemistry, is required.

4. Application and selection

Online application is available at www.up.ac.za, click on *Study at UP > Apply at UP* in the top menu. The following must be included in the application:

- A research proposal according to the department's framework, available in this document under 7. *Framework for a research proposal*.
- Academic transcript for the highest qualification.
- SAQA certificate if the highest qualification was obtained outside South Africa.

**Applications close on 30 September.
Late applications are accepted only if places are still available.**

Selection takes place before admission and the number of places is limited. An overview of the selection process is provided below. Dates in bold are fixed; the other dates are subject to change.

30 September 2018	Applications close. PhD applicants must include a research proposal of at least 10 pages; Master's applications of at least 5 pages. See 7. Framework for a research proposal for more detail.
30 November 2018	The respective discipline's postgraduate committee evaluates applications and a supervisor(s) is assigned to each successful application. One of four outcomes is possible: <ul style="list-style-type: none">• Accepted.• Accepted on the condition that specified modules are completed during the first year of study.• Provisionally accepted. The research proposal is to be revised based on recommendations by the postgraduate committee for re-evaluation at a subsequent postgraduate committee meeting.• Not accepted.
December 2018	Applicants are notified of the outcome of their application. Successful applicants receive the contact details of the supervisor(s) assigned to them.
January 2019	Accepted students must write a compulsory academic literacy test for postgraduate students (on campus). Accepted students must register by the dates specified for postgraduate students on the UP website. Registration is required to get access to campus and to the UP library, which is essential for postgraduate students.

5. Fees, funding and bursary opportunities

Registrations for research Masters and Doctorates will be levied an annual tuition fee, subject to a possible annual increase and will be payable for each year of registration. Should a Master's by research or Doctoral degree not be completed in the prescribed period, the new annual fee structure applicable at that point in time will be applicable for any subsequent years of re-registration that are allowed.

Tuition fees do not include the cost of prescribed books, stationery, research costs or other study-related expenses.

For comprehensive information about fees and funding, visit www.up.ac.za, click *Study at UP > Postgraduate* students in the top menu, then *Fees and Funding* in the menu on the left.

Bursary information is published by the Department at <https://www.up.ac.za/geography-geoinformatics-and-meteorology>, click *Study > Useful Links* in the menu on the left.

Bursaries for full-time MSc and PhD students are available from the National Research Foundation, see www.nrf.ac.za. Applications usually close in August.

For information about bursaries and studentships at the CSIR, visit www.csir.co.za, click on 'Careers' in the top menu.

6. Information for international students

The first step for international students is to have their existing academic qualifications evaluated by the South African Qualifications Authority (www.saqqa.org.za). It is essential to attach the SAQA certificate to your online application.

Additional information for international students is available at www.up.ac.za, click on *Study at UP > International students* in the top menu.

7. Framework for a research proposal

A proposal based on the following framework **must** be submitted together with an application for Master's or PhD in the Department of Geography, Geoinformatics and Meteorology, University of Pretoria:

1. NAME OF STUDENT, PROPOSED DEGREE, CURRENT DEGREE, LIST OF PUBLICATIONS CO-AUTHORED BY STUDENT (if any)
2. PRELIMINARY TITLE. Students are strongly encouraged to align the research topic to expertise and research interests of staff members. See <https://www.up.ac.za/en/geography-geoinformatics-and-meteorology>, click 'About us > Staff' in the menu on the left.
3. SHORT PROJECT DESCRIPTION: 1 or 2 sentences only
4. RESEARCH QUESTION AND OBJECTIVES
5. NEED: Why is the research necessary? Will you be able to convince a funding agency or the commercial sector to provide funding/support to do the research?
6. LITERATURE REVIEW
7. APPROACH: Data and methodology description
8. BENEFITS: To science and to yourself
9. CHALLENGES: Scientific and other risks
10. FUNDING: How do you plan to fund your research (study fees and other material)?
11. GANTT chart: Illustrate the project schedule. Indicate whether you plan to study full-time or part-time.
12. REFERENCES: Of all the publications cited above
13. SIGNATURE OF APPROVAL BY EMPLOYER: If you are a full-time employee, your supervisor at work must agree on the content of the proposal.