



DEPARTMENT OF GEOGRAPHY, GEOINFORMATICS AND METEOROLOGY

Master's and Doctorate programmes

2022

This information brochure is a guide only. For the latest on the chosen degree please visit the UP website at www.up.ac.za.

This brochure provides information about **research-only** Masters 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/ggm>, click *Study > Our Programmes* in the top menu. 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 three disciplines.

Geography and environmental Science 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, both now and in 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, biodiversity and wildlife management, 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.

The Department also currently hosts the **Centre for Environmental Studies (CFES)**. This centre is a graduate training programme for multidisciplinary studies in the field of environmental sciences. The emerging discipline of Environmental Studies requires a new generation of graduates capable of facing the challenges posed by this multidisciplinary subject as well as by the expanding and rapidly changing market requirements. The latest developments in national and international legislation with respect to the environment, as well as the consumer-driven environmental awareness of the industry at an international level, has generated a need for suitably qualified professionals who can implement these new developments in the environmental industry. A sensitive balance between professional specialisation and a broad understanding of the varied and interacting dimensions of environmental problems is required, promoting sustainable economic development.

2. Master's and Doctorate programmes in the department

Postgraduate degrees are offered in geography, geoinformatics and meteorology, and in the following three 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.

Environmental Management. A focus on environmental science, with a clear management perspective – including understanding environmental regulations, paradigms and tools for assessment.

Environmental Science. A focus on environmental science, including specializations around environmental change, climate, biodiversity and ecosystem services and geomorphology.

* *The last enrolment for these programs is 2022. MSc and PhD Environmental Management will be replaced by MSc and PhD Environmental Science from 2023. Students still enrolled in these programs in 2023 will form part of a transitional period and supervisors will only supervise topics in Environmental Science, not Environmental Management during that period.*

Programme	Faculty	Contact
PhD Environment and Society	Humanities	Dr Nershene Davis nerhene.davis@up.ac.za
MSc Environment and Society*		Prof Emma Archer emma.archer@up.ac.za
PhD Environment and Society	Natural and Agricultural Sciences	
MSc Environmental Management*		
PhD Environmental Management*		
MA Geography	Humanities	Prof Greg Breetzke greg.breetzke@up.ac.za
PhD Geography		
MSc Geography	Natural and Agricultural Sciences	Prof Greg Breetzke greg.breetzke@up.ac.za
PhD Geography		
MSc Geoinformatics	Natural and Agricultural Sciences	Prof Serena Coetzee serena.coetzee@up.ac.za
PhD Geoinformatics		
MSc Meteorology	Natural and Agricultural Sciences	Prof Willem Landman willem.landman@up.ac.za
PhD Meteorology		

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 have to submit a draft article based on their research, approved by the supervisor. PhD students must submit proof of acceptance of an article issued by an accredited journal (or a series of articles, as agreed on). The article should be based on the research that the student has conducted for the thesis.

Master's and Doctorate students undertaking their degree by research (not coursework) do not have daily commitments (classes, etc.) and it is, therefore, not absolutely 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 into 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 enrolled for a coursework Master's are expected to attend all contact sessions.

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 supervisor 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/ggm>, click *About us > Staff* in the top menu. Approaching the department with a proposal interest not aligned to the expertise of one of the staff members will usually not find supervision capacity. A good approach to understanding staff research expertise is to read their publications, or a selection thereof, prior to approaching them.

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 > Yearbooks* in the top menu. Click on General Rules and Regulations in the menu on the left for general rules and regulations (PDF).

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

Contact person for postgraduate student enquiries in the department: Ms Lunga Ngcongo, lunga.ngcongo@up.ac.za. For program specific information, please contact the relevant program coordinators.

3. Admission requirements

3.1 Master's programmes

Refer to UP Rules and Regulations G.30 – G.41 for Master's degrees. Master's degree by dissertation refers to a single advanced research project, culminating in the production and acceptance of a dissertation or other forms of research such as a technical report, one or more creative performances or works, or a series of peer-reviewed articles or other research-equivalent output. A Master's degree by coursework and mini dissertation refers to a coursework programme requiring a high level of theoretical engagement and intellectual independence, and in some cases demonstration of the ability to relate knowledge to a range of contexts for professional practice. It must contain a research project comprising a minimum of 60 credits at NQF level 9, culminating in the acceptance of a mini dissertation or other forms of research such as technical reports, creative performances or works, or series of peer-reviewed articles or other research-equivalent outputs.

In addition to the General Rules and Regulations G.1.3, G.31 and G.54 an appropriate Honours degree is a prerequisite for admission. An average of at least 70% is required in the Honours year of study for admission to the MSc, with an average of at least 70% required in the Honours year of study for admission to the MA. 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 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 that requires a student to 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:

- **MA Geography:** BSocSci Hons Geography or other relevant BA Honours or four-year BSocSci degree with a minimum average of 60% is required. An acceptable level of proficiency in English is a requisite. An approved research proposal is also required.
- **MSc Environment and Society***: 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. In the selection procedure the candidate's complete undergraduate and honours academic record will be considered. Additional courses in related topics may be prescribed for students, depending on their academic background. 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.

* The last enrolment for this program is 2022.

- **MSc Environmental Management*:** BScHons degree or equivalent. In the selection procedure the candidate's complete undergraduate and honours academic record will be considered. Additional courses in economics or related topics may be prescribed for students, depending on their academic background. SAQA evaluation compulsory. (NQF level 8 required). 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.

* The last enrolment for MSc and PhD Environmental Management is 2022. This will be replaced by MSc and PhD Environmental Science from 2023. Students still enrolled in these programs in 2023 will form part of a transitional period and supervisors will only supervise topics in Environmental Science, not Environmental Management during that period.

- **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.

A final admission requirement for international students on each Masters programme concerns proof of English language proficiency. Requirements are stipulated below:

- a. Proof that tertiary studies were in English, OR
- b. Completion of a TOEFL test (www.ets.org/toefl). (A score of HIGH or GOOD is considered to be adequate for postgraduate research), OR
- c. Completion of an IELTS academic test (www.ielts.org). (A score of 7.5 or higher is considered to be adequate for postgraduate research).

3.4 Doctorate programmes in the Faculty of Natural and Agricultural Sciences

Refer to UP Rules and Regulations G.42 – G.50 for Doctoral degrees. In addition to the requirements of General Rules and Regulations G.1.3 and G.54 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 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 for admission into a Doctorate programme in the department.

Additional admission requirements for the different PhD programmes:

- **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 (Environment and Society) or an equivalent degree, such as Geography, Statistics, Town and Regional Planning or Environmental and Earth Sciences, is required. Applicants need to prove that they published one research paper in an open scientific literature (i.e. peer-reviewed professional research journals).
- **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). An acceptable level of proficiency in English is required. An approved research proposal is required
- **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. 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.

A final admission requirement for international students on each Masters programme concerns proof of English language proficiency. Requirements are stipulated below:

- d. Proof that tertiary studies were in English, OR
- e. Completion of a TOEFL test (www.ets.org/toefl). (A score of HIGH or GOOD is considered to be adequate for postgraduate research), OR
- f. Completion of an IELTS academic test (www.ielts.org). (A score of 7.5 or higher is considered to be adequate for postgraduate research).

4. Application and selection

Online application is available at www.up.ac.za, click on *Study > Apply* 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 31 August.
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.

31 August 2021	Applications close for foreign applicants. PhD applicants must include a research proposal of at least 10 pages; Master's applications of at least 5 pages. See section 7. Framework for a research proposal for more detail.
31 October 2021	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.• Further consideration. 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 2021	Applicants are notified of the outcome of their application. Successful applicants or applicants that will be further considered receive the contact details of the supervisor(s) assigned to them (where appropriate).
January 2022	Students who have been assigned a supervisor have to submit results of ONE of the compulsory English language proficiency tests as outlined earlier (either off or on campus) to the department. Accepted students have to 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 Master's and Doctorates will be levied an annual tuition fee, subject to a possible annual increase and will be payable for each year of registration. Registrations for Master's by coursework degrees will be levied as per the tables per faculty, provided that the student completes the degree in the prescribed period. 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 > Fees and Funding > Fees*.

Bursary information is published by the Department at <https://www.up.ac.za/ggm>, click *Useful Links > Bursaries*.

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 *Menu > 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.sqaq.org.za). It is essential to attach the SAQA certificate to your online application.

Additional information for international students is available on the UP website, www.up.ac.za, click on 'Study' in the top menu, then on 'International Students'.

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/ggm>, 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 plans 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.