



DEPARTMENT OF GEOGRAPHY, GEOINFORMATICS AND METEOROLOGY

Master's and Doctorate programs

2023

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 programs offered by the Department of Geography, Geoinformatics and Meteorology. For **coursework** Master's programs, 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:

Disciplines in the department	1
Master's and Doctorate programs in the department	2
Admission requirements	3
Application and selection	4
Fees, funding and bursary opportunities	5
Information for international students	5
Framework for a research proposal	5

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 that encourages students to take a holistic view of the world and its 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, visualisation, 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 visualising 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 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 hosts the **Centre for Environmental Studies (CFES)**. This centre is a graduate training program 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, have 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, to promote sustainable economic development.

2. Master's and Doctorate programs in the department

Program	Faculty	Contact
MA Environment and Society MA Geography PhD Geography	Humanities	Dr Nerhene Davis nerhene.davis@up.ac.za
MSc Environmental Science PhD Environmental Science	Natural and Agricultural Sciences	Prof Emma Archer emma.archer@up.ac.za
MSc Geography PhD Geography		Prof Greg Breetzke greg.breetzke@up.ac.za
MSc Geoinformatics PhD Geoinformatics		Prof Serena Coetzee serena.coetzee@up.ac.za
MSc Meteorology PhD Meteorology		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.

A Master's degree by dissertation (research) 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. Master's students have to submit a draft article based on their research, approved by the supervisor. Refer to the UP General Rules and Regulations G.30 – G.41 for Master's degrees.

A doctoral degree requires a candidate to undertake research at the most advanced academic levels culminating in the submission, assessment, and acceptance of a thesis. Coursework may be required as preparation or value addition to the research, but is not credit-bearing and is therefore not taken into account during the examination of the thesis and the determination of the final result. 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. Refer to the UP General Rules and Regulations G.42 – G.55 for Doctoral degrees.

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 interactions 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 themselves 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.

The 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.

The 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 the research expertise and interests of staff members with a PhD. See <https://www.up.ac.za/ggm>, click *About us > Staff* or *About us > Extraordinary Staff* in the top menu. Approaching the department with a proposal that is 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 to download the 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 email for postgraduate student inquiries in the department: ggm-studentadmin@up.ac.za. For program-specific information, please contact the relevant contact in the table above.

3. Admission requirements

3.1 Master's programs

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 65% is required in the Honours year of study for admission to the MSc and an average of at least 65% is 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 the department, and Postgraduate Studies Committee. Admission is approved by the Postgraduate Studies Committee in consultation with the head of the department and the supervisor.

There is a selection process that requires a student to have a weighted average of at least 65% for the Honours modules (or fourth year of study, whichever is applicable) for admission into an MSc, and a weighted average of 60% for admission into an MA program in the department.

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

Depending on the research topic, prior qualifications, and experience of the applicant, an admission examination or CV may be required, or a student may be advised to complete the relevant Honours degree or selected modules before commencing with the Masters.

Additional admission requirements for the different Master's programs:

- **MA Geography (Humanities):** Relevant Honours degree, such as BSocSci Hons Geography .
- **MSc Environmental Science:** Relevant BScHons degree with mathematics or statistics passed at first-year level or relevant four-year BSc degree with mathematics or statistics passed at first-year level. In the selection procedure, the candidate's complete undergraduate and honours academic record will be considered. The former MSc Environmental Management is now offered under this name.

- **MSc Geography (Natural and Agricultural Sciences):** 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.
- **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.
- **MSc Meteorology:** BScHons Meteorology or other relevant Honours or four-year BSc degree, such as Climatology, Physics, Applied Mathematics, Mathematics, Mathematical Statistics or Chemistry.

3.4 Doctoral programs

There is a selection process with the expectation that a student should have a weighted average of at least 65% or above for the Master's degree for admission into a Doctorate program in the department.

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

Depending on the research topic, prior qualifications, and experience of the applicant, an admission examination or CV may be required, or 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.

Additional admission requirements for the different PhD programs:

- **PhD Environment and Society (Humanities):** MA in Environment and Society or other relevant master's degree, such as geography, Town and Regional Planning.
- **PhD Environmental Science:** MSc Environmental Science or other relevant MSc degree, such as Geography, Statistics, Town and Regional Planning, or Environmental and Earth Sciences. Applicants may need to prove that they published one research paper in the scientific literature (i.e. peer-reviewed professional research journals). The former PhD Environmental Management is now offered under this name.
- **PhD Geography (Humanities):** MA Geography or other relevant master's degree, such as Town and Regional Planning.
- **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.
- **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.
- **PhD Meteorology:** MSc Meteorology or other relevant MSc degree, such as Climatology, Physics, Applied Mathematics, Mathematics, Mathematical Statistics, or Chemistry,.

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, is 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 2022	Applications close applicants. PhD applicants must include a research proposal of at least 10 pages; Master's application of at least 5 pages. See section 7. Framework for a research proposal for more detail.
31 October 2022	The respective discipline's postgraduate committee evaluates applications and a supervisor(s) is assigned to each successful application. One of three outcomes is possible: <ul style="list-style-type: none">• Accepted.• Conditionally accepted, e.g. on the condition that the applicant meets the admission requirement after completing the prerequisite program, or on the condition that specified modules are completed during the first year of study.• Not accepted.
December 2022	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 2023	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. 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 July.

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.saqa.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 a 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 the 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 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.