

# University of Pretoria Yearbook 2020

## BScHons Geography and Environmental Science (02240415)

**Minimum duration of study** 1 year

**Total credits** 135

**NQF level** 08

### Programme information

#### Renewal of registration

- i. Subject to exceptions approved by the Dean, on the recommendation of the relevant head of department, a student may not sit for an examination for the honours degree more than twice in the same module.
- ii. A student for an honours degree must complete his or her study, in the case of full-time students, within two years and, in the case of after-hours students, within three years of first registering for the degree. Under special circumstances, the Dean, on the recommendation of the relevant head of department, may give approval for a limited extension of this period.

In calculating marks, General Regulation G.12.2 applies.

Apart from the prescribed coursework, a research project is an integral part of the study.

### Admission requirements

- An appropriate BSc degree or on recommendation from the head of department
- At least a final grade point average of 60% for third-year level and fourth-year level modules

### Pass with distinction

The BScHons degree is awarded with distinction to a candidate who obtains a weighted average of at least 75% in all the prescribed modules and a minimum of 65% in any one module.

## Curriculum: Final year

### Minimum credits: 135

Fundamental credit: 25

Core credits: 35

Elective credits: 75

### Additional information:

Please note that the curriculum may change each year at the discretion of the head of department or the honours coordinator in the Department of Geography, Geoinformatics and Meteorology.

Appropriate modules, other than approved by the honours coordinator or head of department, may be taken. However, a minimum of 45 elective module credits should come from the Department of Geography, Geoinformatics and Meteorology.

## Fundamental modules

### Geographical and environmental principles 710 (GGY 710)

<b>Module credits</b>	25.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Semester 2

#### Module content

The module provides a critical review of the structures and paradigms in which the geographical and environmental sciences are practised. Particular reference is made to the development and impact of paradigms and the interdependence of systems within space and time.

## Core modules

### Research project 702 (GGY 702)

<b>Module credits</b>	35.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Year

## Module content

An approved individual research project, carried out under the guidance of a lecturer. The project culminates in a research report in the format of a research paper and presentation. The student is expected to obtain the respective skills (theoretical and practical research techniques, data analysis, communication and computer skills) necessary for the research topic.

## Elective modules

### Statistics for biological sciences 780 (BME 780)

<b>Module credits</b>	15.00
<b>Service modules</b>	Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 Block weeks
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Statistics
<b>Period of presentation</b>	Semester 1

## Module content

The principles of experimental design as required for the selection of an appropriate research design. Identification of the design limitations and the impact thereof on the research hypotheses and the statistical methods. Identification and application of the appropriate statistical methods needed. Interpreting of statistical results and translating these results to the biological context.

### Natural woodland and forests: Ecology and management 700 (BOT 700)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Department of Plant and Soil Sciences
<b>Period of presentation</b>	Semester 2

## Module content

Definitions of woodlands and forests and vegetation and forest resources in southern Africa; Classification of forest and woodland in southern Africa; Woodland dynamics including disturbance, recruitment, growth and mortality, recovery after disturbance; Ecosystem services (microclimate and nutrient cycling, carbon sequestration etc); Sustainable forest resource management (resource assessment, socio-economic assessment e.g. wood and non-forest products, participatory resource management processes); Forest health; Monitoring of resource-use impacts and adaptive management; Development of a framework for sustainable conservation and use of non-timber forest products; Climate change and resilience. Forest disease and pathology.

### Basis in environmental health 772 (EHM 772)

<b>Module credits</b>	5.00
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<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	School of Health System and Public Health
<b>Period of presentation</b>	Year

### Environmental assessments 785 (ENV 785)

<b>Module credits</b>	15.00
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Semester 1

#### Module content

The aim of this module is to understand the principles and processes behind environmental assessments. The module will give an overview of the history of assessments, compare assessment processes internationally, evaluate the strengths and weaknesses of different approaches, provide an overview of the South African regulatory context and the environmental authorisation process.

### Introduction to environmental and occupational health 775 (EOH 775)

<b>Module credits</b>	10.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	School of Health System and Public Health
<b>Period of presentation</b>	Year

### Selected theme 701 (GGY 701)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 1 web-based period per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Year

#### Module content

A self-study module on an aspect or aspects of geographical or environmental science selected in consultation with the head of the department from: (a) themes not covered in existing options; or (b) educational subjects.



### Applied geomorphology 718 (GGY 718)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Semester 2

#### Module content

This module focuses on processes and applications of geomorphology. Topics that may be studied include: soil erosion and conservation, weathering, geomorphic response to environmental change, slope processes and geomorphological hazards. The module includes practical fieldwork and field assessments.

### Urban geography 780 (GGY 780)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Year

#### Module content

The main themes of the module include: overview of global urbanisation theories and processes; urban morphology and change; the administrative structure and functions of African cities and; the quality of urban life in the developing world.

### Environmental change 789 (GGY 789)

<b>Module credits</b>	15.00
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week, 2 discussion classes per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Year

#### Module content

Study themes include past environmental change, causes and consequences of human-induced environmental change and South Africa and climate change.

### Aspects of land reform and the environment 793 (GGY 793)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Year

#### Module content

The module aims to provide students with an understanding and knowledge of contemporary land reform issues against the background of international land reform experiences. The module also touches on other rural development strategies and ultimately aims to enhance the student's ability to conceptualise and analyse policy in the context of broader environmental issues.

### Advanced remote sensing 705 (GMA 705)

<b>Module credits</b>	15.00
<b>Prerequisites</b>	GMA 320 or equivalent
<b>Contact time</b>	28 contact hours per semester
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geography Geoinformatics and Meteorology
<b>Period of presentation</b>	Semester 1 or Semester 2

#### Module content

The aim of the module is to provide knowledge and understanding of image analysis and information extraction methods in remote sensing. The emphasis is on equipping students with knowledge and skills necessary to process imagery to extract diverse biophysical and geospatial information. The course gives insight into the possibilities and limitations of the application of modern remote sensing/image acquisition systems for Earth and atmosphere research purposes at different levels of detail.

### Environmental management and risk assessment 716 (GTX 716)

<b>Module credits</b>	20.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 practicals per week (3 weeks), 4 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Geology
<b>Period of presentation</b>	Year

## Module content

Principles of integrated environmental management; environmental impact assessment; environmental management systems (ISO 14000 series); water resource management; environmental legislation; site investigation guidelines; natural hazard risk assessment; seismicity; project management and professional business practice. Geological models and software.

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The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.