

# University of Pretoria Yearbook 2017

## BSc Meteorology (02133313)

**Duration of study** 3 years

**Total credits** 404

### Admission requirements

- The following persons will be considered for admission: a candidate who is in possession of a certificate that is deemed by the University to be equivalent to the required Grade 12 certificate with university endorsement; a candidate who is a graduate from another tertiary institution or has been granted the status of a graduate of such an institution; and a candidate who is a graduate of another faculty at the University of Pretoria.
- Life Orientation is excluded in the calculation of the Admission Point Score (APS).
- Grade 11 results are used for the provisional admission of prospective students. Final admission is based on the Grade 12 results.

Minimum requirements												
Achievement level												
Afrikaans or English				Mathematics				Physical Science				APS
NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
5	3	C	C	5	3	C	C	5	3	C	C	32

### BSc - Extended programme for the Physical Sciences:

Candidates who do not comply with the minimum admission requirements for BSc (Meteorology), may be considered for admission to the BSc - Extended programme for the Physical Sciences. The BSc - Extended programme takes place over a period of four years instead of the normal three years.

Minimum requirements													
Achievement level													
	Afrikaans or English				Mathematics				Physical Science				APS
	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
BSc - Extended programme for the Physical Sciences	4	3	D	D	4	3	D	D	4	3	D	D	26

### Other programme-specific information

A student must pass all the minimum prescribed and elective module credits as set out at the end of each year within a programme as well as the total required credits to comply with the particular degree programme. Please refer to the curricula of the respective programmes. At least 144 credits must be obtained at 300-/400-level, or otherwise as indicated by curriculum. The minimum module credits needed to comply with degree requirements

is set out at the end of each study programme. Subject to the programmes as indicated a maximum of 150 credits will be recognised at 100-level. A student may, in consultation with the Head of Department and subject to the permission by the Dean, select or replace prescribed module credits not indicated in BSc three-year study programmes to the equivalent of a maximum of 36 module credits.

It is important that the total number of prescribed module credits is completed during the course of the study programme. The Dean may, on the recommendation of the Head of Department, approve deviations in this regard. Subject to the programmes as indicated in the respective curricula, a student may not register for more than 75 module credits per semester at first-year level subject to permission by the Dean. A student may be permitted to register for up to 80 module credits in the first semester during the first year provided that he or she obtained a final mark of no less than 70% for grade 12 Mathematics and achieved an APS of 34 or more in the NSC.

Students who are already in possession of a bachelor's degree, will not receive credit for modules of which the content overlap with modules from the degree that was already conferred. Credits will not be considered for more than half the credits passed previously for an uncompleted degree. No credits at the final-year or 300- and 400-level will be granted.

The Dean may, on the recommendation of the programme manager, approve deviations with regard to the composition of the study programme.

Please note: Where elective modules are not specified, these may be chosen from any modules appearing in the list of modules.

It remains the student's responsibility to ascertain, prior to registration, whether they comply with the prerequisites of the modules they want to register for.

The prerequisites are listed in the Alphabetical list of modules.

## Promotion to next study year

A student will be promoted to the following year of study if he or she passed 100 credits of the prescribed credits for a year of study, unless the Dean on the recommendation of the head of department decides otherwise. A student who does not comply with the requirements for promotion to the following year of study, retains the credit for the modules already passed and may be admitted by the Dean, on recommendation of the head of department, to modules of the following year of study to a maximum of 48 credits, provided that it will fit in with both the lecture and examination timetable.

### General promotion requirements in the faculty

All students whose academic progress is not acceptable can be suspended from further studies.

- A student who is excluded from further studies in terms of the stipulations of the abovementioned regulations, will be notified in writing by the Dean or Admissions Committee at the end of the relevant semester.
- A student who has been excluded from further studies may apply in writing to the Admissions Committee of the Faculty of Natural and Agricultural Sciences for re-admission.
- Should the student be re-admitted by the Admissions Committee, strict conditions will be set which the student must comply with in order to proceed with his/her studies.
- Should the student not be re-admitted to further studies by the Admissions Committee, he/she will be informed in writing.

- Students who are not re-admitted by the Admissions Committee have the right to appeal to the Senior Appeals Committee.
- Any decision taken by the Senior Appeals Committee is final.

## Pass with distinction

A student obtains his or her degree with distinction if all prescribed modules at 300-level (or higher) are passed in one academic year with a weighted average of at least 75%, and obtain at least a subminimum of 65% in each of the relevant modules.

# Curriculum: Year 1

**Minimum credits: 140**

**Minimum credits:**

Fundamental = 12

Core = 88

Electives = 40

**Additional information:**

Students who do not qualify for AIM 102 must register for AIM 111 and AIM 121.

Electives for the first to third year can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Geology, Plant Production and Soil Science, Chemistry, Plant Science, Mathematics and Applied Mathematics, Physics, Computer Science.

## Fundamental modules

[Academic information management 111](#) (AIM 111) - Credits: 4.00

[Academic information management 121](#) (AIM 121) - Credits: 4.00

[Language and study skills 110](#) (LST 110) - Credits: 6.00

[Academic orientation 102](#) (UPO 102) - Credits: 0.00

[Academic information management 102](#) (AIM 102) - Credits: 6.00

## Core modules

[Calculus 114](#) (WTW 114) - Credits: 16.00

[Numerical analysis 123](#) (WTW 123) - Credits: 8.00

[First course in physics 114](#) (PHY 114) - Credits: 16.00

[First course in physics 124](#) (PHY 124) - Credits: 16.00

[Atmospheric structure and processes 155](#) (WKD 155) - Credits: 16.00

[Mathematics 124](#) (WTW 124) - Credits: 16.00

## Elective modules

[General chemistry 117](#) (CMY 117) - Credits: 16.00

[General chemistry 127](#) (CMY 127) - Credits: 16.00

[Aspects of human geography 156](#) (GGY 156) - Credits: 8.00

[Southern African geomorphology 166](#) (GGY 166) - Credits: 8.00

[Cartography 110](#) (GMC 110) - Credits: 10.00

[Exploring the universe 154](#) (SCI 154) - Credits: 16.00

[Mechanics 122](#) (SWK 122) - Credits: 16.00

[Introduction to environmental sciences 101](#) (ENV 101) - Credits: 8.00

[Introduction to geology 155](#) (GLY 155) - Credits: 16.00

[Earth history 163](#) (GLY 163) - Credits: 16.00

## Curriculum: Year 2

**Minimum credits: 144**

**Minimum credits:**

Core = 88

Elective = 56

**Additional information:**

Electives for the first to third year can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Geology, Plant Production and Soil Science, Chemistry, Plant Science, Mathematics and Applied Mathematics, Physics, Computer Science.

### Core modules

[Geographic data analysis 220](#) (GIS 220) - Credits: 14.00

[Remote sensing 220](#) (GMA 220) - Credits: 14.00

[Physical meteorology 261](#) (WKD 261) - Credits: 12.00

[Calculus 218](#) (WTW 218) - Credits: 12.00

[Vector analysis 248](#) (WTW 248) - Credits: 12.00

[Introduction to dynamic meteorology 263](#) (WKD 263) - Credits: 12.00

[Programming in meteorology 254](#) (WKD 254) - Credits: 12.00

### Elective modules

[Process geomorphology 252](#) (GGY 252) - Credits: 12.00

[Introductory geographic information systems 283](#) (GGY 283) - Credits: 14.00

[Introductory soil science 250](#) (GKD 250) - Credits: 12.00

[Remote sensing 220](#) (GMA 220) - Credits: 14.00

[Linear algebra 211](#) (WTW 211) - Credits: 12.00

[Analysis 220](#) (WTW 220) - Credits: 12.00

[Differential equations 286](#) (WTW 286) - Credits: 12.00

[City structure, environment and society 266](#) (GGY 266) - Credits: 24.00

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## Curriculum: Final year

**Minimum credits: 120**

**Minimum credits:**

Core = 90

Elective = 30

**Additional information:**

Electives for the first to third year can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Geology, Plant Production and Soil Science, Chemistry, Plant Science, Mathematics and Applied Mathematics, Physics, Computer Science.

### Core modules

[Atmospheric vorticity and divergence 352](#) (WKD 352) - Credits: 18.00

[Quasi-geostrophic analysis 361](#) (WKD 361) - Credits: 18.00

[Human environmental interactions 301](#) (ENV 301) - Credits: 18.00

[Fundamentals of weather forecasting 366](#) (WKD 366) - Credits: 36.00

### Elective modules

[Geographic information systems 310](#) (GIS 310) - Credits: 24.00

[Spatial analysis 320](#) (GIS 320) - Credits: 22.00

[Soil chemistry 320](#) (GKD 320) - Credits: 14.00

[Remote sensing 320](#) (GMA 320) - Credits: 22.00

[Geometrical and space geodesy 310](#) (GMC 310) - Credits: 22.00

[Principles of veld management 310](#) (WDE 310) - Credits: 12.00

[Sustainable development 356](#) (GGY 356) - Credits: 18.00

[Development frameworks 366](#) (GGY 366) - Credits: 18.00

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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.