

# University of Pretoria Yearbook 2023

## BSc extended programme - Physical Sciences (02130015)

**Department** Natural and Agricultural Sciences Dean's Office

**Minimum duration of study** 4 years

**Total credits** 136

**NQF level** 07

### Admission requirements

#### Important information for all prospective students for 2023

The admission requirements below apply to all who apply for admission to the University of Pretoria with a **National Senior Certificate (NSC) and Independent Examination Board (IEB) qualifications**. [Click here for this Faculty Brochure](#).

Candidates who do not comply with the minimum admission requirements of programmes in the Department of Physical Sciences, may be considered for admission to the BSc – Extended programme for the Physical Sciences, which requires an additional year of study.

#### BSc - Extended Programme - Physical Sciences

##### Minimum requirements

##### Achievement level

##### English Home

##### Language or

##### English First

##### Additional

##### Language

NSC/IEB

4

##### Mathematics

NSC/IEB

4

##### Physical Sciences

NSC/IEB

4

##### APS

**28**

#### Note:

\*The BSc – Extended programmes are not available for students who meet all the requirements for the corresponding mainstream programme.

\*Please note that only students who apply in their final NSC or equivalent qualification year will be considered for admission into any of the BSc – Extended programmes. Students who are upgrading or taking a gap year will not be considered.

Life Orientation is excluded when calculating the APS.

You will be considered for final admission to degree studies if space allows, and if you have a National Senior Certificate (NSC) or equivalent qualification with admission to bachelor's degree studies, and comply with the minimum subject requirements as well as the APS requirements of your chosen programme.

**Applicants with qualifications other than the abovementioned** should refer to the Brochure: Undergraduate Programme Information 2023: Qualifications other than the NSC and IEB, available at [click here](#).  
International students: [Click here](#).

## Additional requirements

- a. Students who are admitted to one of the BSc extended programmes register for one specific programme. Three extended programmes are available:
  - BSc extended programme – Mathematical Sciences
  - BSc extended programme – Biological and Agricultural Sciences
  - BSc extended programme – Physical Sciences
- b. These programmes are followed by students who, as a result of exceptional circumstances, will benefit from an extended programme.
- c. Students who do not comply with the normal three-year BSc entrance requirements for study in the Faculty of Natural and Agricultural Sciences, may nevertheless be admitted to the Faculty by being placed on the BSc extended programme. Generally the BSc extended programme means that the first study year in Mathematics, Physics, Biology and Chemistry is extended to take two years. After completing the BSc extended programme successfully, students join the second year of the normal BSc programme to complete their degrees. The possibility of switching over to other faculties such as Engineering, Built Environment and Information Technology, Veterinary Science and Health Sciences, after one or two years in the extended programme, exists. This depends on selection rules and other conditions stipulated by the other faculties.
- d. Students who wish to follow one of the BSc extended programmes will be subjected to an Institutional Proficiency Test and will be considered for admission by the Admissions Committee. Information in this regard is available at the Client Services Centre.
- e. Applications for admission to the BSc extended programme should be submitted before 30 September each year. Details are obtainable from the Student Administration at the Faculty of Natural and Agricultural Sciences.
- f. The rules and regulations applicable to the normal study programmes apply mutatis mutandis to the BSc extended programme, with exceptions as indicated in the regulations pertaining to the BSc extended programme. For instance, students placed in the BSc extended programme must have a National Senior Certificate with admission for degree purposes.
- g. An admissions committee considers applications for the BSc extended programme annually. Regarding subject choices, admitted students are individually placed on the BSc extended programme according to their prospective field of study. Students may NOT change this placement without the permission of the Chairperson of the admissions committee.

## Other programme-specific information

- a. The BSc extended programmes are not available for students who meet all the requirements for the corresponding mainstream programme.
- b. Please note that only students who apply in their final NSC or equivalent qualification year will be considered for admission into any of the BSc extended programmes.
- c. Students who are placed on the BSc extended programme will take a minimum of five years to complete the BScAgric, BSc (Culinary Science) or BSc (Nutrition) programmes.

- d. Students enrolled for the BSc extended programme – Biological and Agricultural Sciences, do not qualify to apply for the mid-year intake in the Faculty of Health Sciences.
- e. Progression from the BSc extended programme – Mathematical Sciences 02130016 to the mathematics-intensive programmes will be considered only if students obtained a GPA of 65% in their first-year modules. Students who pass all first-year modules will be advised on alternative academic pathways. In addition, admission into the BSc (Actuarial and Financial Mathematics) programme will only be considered if students have passed IAS 111 and achieved a minimum mark of 60% in WTW 153 and WST 153.

### 1.1 Requirements for specific modules

A candidate who:

- a. does not qualify for STK 110, must enrol for STK 113 and STK 123;
- b. registers for Mathematical Statistics (WST) and Statistics (STK) modules must take note that WST and STK modules, except for STK 281, may not be taken simultaneously in a programme; a student must take one and only one of the following options:
  - WST 111, WST 121, WST 212, WST 211, WST 221, WST 311, WST 312, WST 322, WST 321, and STK 353  
or
  - WST 111, WST 121, WST 212, WST 211, WST 221, WST 311, WST 312, WST 322, STK 320, STK 353.  
or
  - STK 110, STC 122, STK 210, STK 220, WST 212, STK 310, STK 320, STK 353.
- c. registers for a module presented by another faculty must take note of the timetable clashes, prerequisites for that module, subminimum required in examination papers, supplementary examinations, etc.

### 1.2 Fundamental modules

- a. It is compulsory for all new first-year students to satisfactorily complete the Academic orientation (UPO 102) and to take Academic information management modules (AIM 111 and AIM 121) and Language and study skills (LST 110). Please see curricula for details.
- b. Students who intend to apply for admission to MBChB or BChD in the second semester, when places become available in those programmes, may be permitted to register for up to 80 module credits and 4 core modules in the first semester during the first year provided that they obtained a final mark of no less than 70% for Grade 12 Mathematics and achieved an APS of 34 or more in the NSC.

## Promotion to next study year

### Academic promotion requirements

It is expected of students who register for the first year of the BSc extended programme to pass all the prescribed modules of the first year.

It is expected of students accepted into the BSc extended programme to finish a complete corresponding BSc first year within the two years of enrolment in the BSc extended programme. Students who do not show progress during the first semester of the first year will be referred to the Admissions Committee of the Faculty.

## General information

### **University of Pretoria Programme Qualification Mix (PQM) verification project**

*The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-*

*Framework (HEQF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.*



## Curriculum: Year 1

**Minimum credits: 88**

Fundamental = 24

Core = 64

**NB Students may register for an extended module only once.**

### Fundamental modules

Academic information management 111 (AIM 111) - Credits: 4.00

Academic information management 121 (AIM 121) - Credits: 4.00

Language, life and study skills 133 (LST 133) - Credits: 8.00

Language, life and study skills 143 (LST 143) - Credits: 8.00

Academic orientation 120 (UPO 120) - Credits: 0.00

### Core modules

Chemistry 133 (CMY 133) - Credits: 8.00

Chemistry 143 (CMY 143) - Credits: 8.00

Physics 133 (PHY 133) - Credits: 8.00

Physics 143 (PHY 143) - Credits: 8.00

Precalculus 135 (WTW 135) - Credits: 16.00

Calculus 143 (WTW 143) - Credits: 8.00

Mathematical modelling 155 (WTW 155) - Credits: 8.00

## Curriculum: Year 2

### Minimum credits: 24

Core = 24

Elective = According to degree programme of choice

### Additional information:

Students must register for the applicable third-semester modules(second year, first semester) and the second-semester, modules must be selected from the normal BSc programme of the student's choice.

### Equivalent modules:

- Chemistry extended modules: CMY 133, CMY 143 and CMY 154: Equivalent to BSc module CMY 117
- Physics extended modules: PHY 133, PHY 143 and PHY 153: Equivalent to BSc module PHY 114
- Mathematics extended modules:
  - WTW 135, WTW 143 and WTW 153: Equivalent to BSc module WTW 114
  - WTW 155: Equivalent to WTW 152
  - WTW 135 GS, WTW 144 and WTW 154: Equivalent to BSc module WTW 134
  - WTW 133, WTW 144 and WTW 154: Equivalent to BSc module WTW 134

### Core modules

[Chemistry 154](#) (CMY 154) - Credits: 8.00

[Physics 153](#) (PHY 153) - Credits: 8.00

[Calculus 153](#) (WTW 153) - Credits: 8.00

### Elective modules

[Biometry 120](#) (BME 120) - Credits: 16.00

[Plants and society 161](#) (BOT 161) - Credits: 8.00

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

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

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

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

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

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

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

[Informatics 112](#) (INF 112) - Credits: 10.00

[Informatics 154](#) (INF 154) - Credits: 10.00

[Informatics 164](#) (INF 164) - Credits: 10.00

[Informatics 171](#) (INF 171) - Credits: 20.00

[Molecular and cell biology 153](#) (MLB 153) - Credits: 8.00

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

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

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

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

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

[Mathematical modelling 152](#) (WTW 152) - Credits: 8.00

[Dynamical processes 162](#) (WTW 162) - Credits: 8.00

[Mathematics 164](#) (WTW 164) - Credits: 16.00

### Regulations and rules

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.

### University of Pretoria Programme Qualification Mix (PQM) verification project

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