



# University of Pretoria Yearbook 2020

## BSc Engineering and Environmental Geology (02133043)

**Minimum duration of study** 3 years

**Total credits** 420

**NQF level** 07

### 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 conditional admission of prospective students. Final admission is based on the Grade 12 results.

#### Minimum requirements

##### Achievement level

##### English Home

##### Language or

##### English First

##### Additional

##### Language

##### Mathematics

##### Physical Science

##### APS

NSC/IEB	AS Level	NSC/IEB	AS Level	NSC/IEB	AS Level	APS
5	C	5	C	5	C	<b>34</b>

\* Cambridge A level candidates who obtained at least a D in the required subjects, will be considered for admission. International Baccalaureate (IB) HL candidates who obtained at least a 4 in the required subjects, will be considered for admission.

Candidates who do not comply with the minimum admission requirements for BSc (Engineering and Environmental Geology), may be considered for admission to the BSc - Extended programme - Physical Sciences. This programme takes a year longer than the normal programmes to complete.

#### BSc - Extended Programme - Physical Sciences

##### Minimum requirements

##### Achievement level



**English Home  
Language or  
English First  
Additional  
Language**

**Mathematics**

**Physical Science**

**APS**

NSC/IEB	AS Level	NSC/IEB	AS Level	NSC/IEB	AS Level	
4	D	4	D	4	D	<b>28</b>

## 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 relevant 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 relevant 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 a 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.



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## 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 relevant 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 relevant 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 Senate Appeals Committee.
- Any decision taken by the Senate 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

Fundamental = 12

Core = 128

### Additional information:

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

Student wishing to take second-year Mathematics or Applied Mathematics modules to complement the Mechanics modules, must take WTW 114 and WTW 124 instead of WTW 158 and WTW 164

Students who wishes to register **GIS 220** in the second year have to register **GMC 110** in the first year

### Fundamental modules

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

[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

### Core modules

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

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

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

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

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

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

[Calculus 158](#) (WTW 158) - Credits: 16.00

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



## Curriculum: Year 2

**Minimum credits: 142**

Core = 94

Elective = 48

### Additional information:

**Students who do not intend to continue with Mathematics on third year level may replace WTW 220 with WTW 224**

**A block of 48 elective credits must be selected from the following-**

**Chemistry:** CMY 282, CMY 283, CMY 284, CMY 285 (48 credits)

**Mathematics:** WTW 211, WTW 218, WTW 220, WTW 221 (48 credits)

**Applied Mathematics:** WTW 211, WTW 218, WTW 248, WTW 264 (48 credits)

**GIS/Geomorphology:** GGY 252, GIS 220, GGY 201 (36 credits)

### Core modules

[Geographic information systems introduction 221](#) (GIS 221) - Credits: 12.00

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

[Sedimentology 253](#) (GLY 253) - Credits: 12.00

[Fundamental and applied mineralogy 255](#) (GLY 255) - Credits: 12.00

[Igneous and Metamorphic Petrology 263](#) (GLY 263) - Credits: 24.00

[Geological field mapping 266](#) (GLY 266) - Credits: 6.00

[Strength of materials 210](#) (SWK 210) - Credits: 16.00

### Elective modules

[Physical chemistry 282](#) (CMY 282) - Credits: 12.00

[Analytical chemistry 283](#) (CMY 283) - Credits: 12.00

[Organic chemistry 284](#) (CMY 284) - Credits: 12.00

[Inorganic chemistry 285](#) (CMY 285) - Credits: 12.00

[City, structure, environment and society 201](#) (GGY 201) - Credits: 12.00

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

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

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

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

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

[Linear algebra 221](#) (WTW 221) - Credits: 12.00

[Techniques of analysis 224](#) (WTW 224) - Credits: 12.00

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

[Differential equations 264](#) (WTW 264) - Credits: 12.00



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## Curriculum: Final year

### Minimum credits: 138

Core = 122

Elective = 16

### Additional information:

Either GLY 367 (24 credits) or SGM 323 (16 credits) must be taken in the second semester.

### Core modules

Soil chemistry 320 (GKD 320) - Credits: 14.00

Soil classification and surveying 350 (GKD 350) - Credits: 14.00

Structural geology 365 (GLY 365) - Credits: 18.00

Groundwater 366 (GLY 366) - Credits: 18.00

Advanced Geological field mapping 368 (GLY 368) - Credits: 6.00

Engineering geology and rock mechanics 369 (GLY 369) - Credits: 36.00

Soil mechanics 311 (SGM 311) - Credits: 16.00

### Elective modules

Economic geology 367 (GLY 367) - Credits: 36.00

Geotechnical engineering 323 (SGM 323) - Credits: 16.00

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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.