University of Pretoria Yearbook 2019

BSc Environmental Sciences (02133362)

Minimum duration of study	3 years
Total credits	426

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	
5	C	5	C	5	C	**32**

* 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 (Environmental Sciences), 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.

BSc Extended Programme for the 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	**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 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 acertain, 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 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 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: 140

Fundamental = 12

Core = 128

Additional information:

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

Students can take WTW 114 instead of WTW 134 if they meet the entry requirement.

No elective credits are required. However depending on a student's second major or theme, the following combinations of modules are recommended:

- **Chemistry as a second major:** WTW 114 instead of WTW 134
- **Ecology as a theme:** GMC 110
- **Geography as a second major:** GMC 110
- **Geoinformatics as a theme:** GMC 110

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

Biometry 120 (BME 120) - Credits: 16.00
Plant biology 161 (BOT 161) - Credits: 8.00
General chemistry 117 (CMY 117) - Credits: 16.00
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
Molecular and cell biology 111 (MLB 111) - Credits: 16.00
Climate and weather of Southern Africa 164 (WKD 164) - Credits: 8.00
Mathematics 134 (WTW 134) - Credits: 16.00
Animal diversity 161 (ZEN 161) - Credits: 8.00

Curriculum: Year 2

Minimum credits: 144

Minimum credits: 144

Core = 84

Elective = 60

Additional information:

Students are advised to select elective modules based on the requirements for a second major or a theme of interest. Further electives may then be selected to complete the required number of credits. It is the student's responsibility to ensure that all prerequisites are taken into account. The prerequisites for each module are listed in its yearbook entry. Second majors (leading to honours studies) that may be combined with Environmental Science are Geography or Chemistry. GIS or Ecology could form synergic themes (not leading to honours) with Environmental Science.

Students must select elective modules with a total number of at least 60 credits. Depending on a student's second major and other interests, the following modules are recommended:

- **Chemistry as a second major:** CMY 282, CMY 283, CMY 284, CMY 285 (Credits 48)
- **Ecology as a theme:** GGY 283, PPK 251, GMA 220, LEK 210 (Credits 55)
- **Geography as second major:** GMA 220, GGY283, GGY 266, (Credits 52)
- **Geoinformatics as a theme:** GMA 220, GGY 283, INF 214, GIS 220 (Credits 56)

Core modules

South African flora and vegetation 251 (BOT 251) - Credits: 12.00
Plant physiology and biotechnology 261 (BOT 261) - Credits: 12.00
Process geomorphology 252 (GGY 252) - Credits: 12.00
Geographic information systems introduction 221 (GIS 221) - Credits: 12.00
Introductory soil science 250 (GKD 250) - Credits: 12.00
Invertebrate biology 251 (ZEN 251) - Credits: 12.00
African vertebrates 261 (ZEN 261) - Credits: 12.00

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 266 (GGY 266) - Credits: 24.00
Introductory geographic information systems 283 (GGY 283) - Credits: 14.00
Geographic data analysis 220 (GIS 220) - Credits: 14.00
Remote sensing 220 (GMA 220) - Credits: 14.00
Informatics 214 (INF 214) - Credits: 14.00
Introduction to agricultural economics 210 (LEK 210) - Credits: 12.00
Sustainable crop production and agroclimatology 251 (PPK 251) - Credits: 15.00
Physical meteorology 261 (WKD 261) - Credits: 12.00

Curriculum: Final year

Minimum credits: 144

Minimum credits: 144

Core = 36

Elective = 108

Students must select elective modules with a total number of at least 108 credits. Depending on a student's second major and other interests, the following modules are recommended.

- **Chemistry as a second major**: CMY 382, CMY 383, CMY 384, CMY 385 (Credits 72)
- **Ecology as theme:** GIS 310, BOT 358, BOT 366, ZEN 351, ZEN 353, ZEN 362, ZEN 364 (Credits 112)
- **Geography as a second major:** GMA 320, GGY 356, GGY 366 (Credits 58)
- **Geoinformatics as theme:** GIS 310, GIS 320, GMA 320 (66 Credits)

Core modules

Human environmental interactions 301 (ENV 301) - Credits: 18.00
Environmental geomorphology 361 (GGY 361) - Credits: 18.00

Elective modules

Plant ecology 358 (BOT 358) - Credits: 18.00
Plant diversity 366 (BOT 366) - Credits: 18.00
Physical chemistry 382 (CMY 382) - Credits: 18.00
Analytical chemistry 383 (CMY 383) - Credits: 18.00
Organic chemistry 384 (CMY 384) - Credits: 18.00
Inorganic chemistry 385 (CMY 385) - Credits: 18.00
Sustainable development 356 (GGY 356) - Credits: 18.00
Development frameworks 366 (GGY 366) - Credits: 18.00
Geographic information systems 310 (GIS 310) - Credits: 22.00
Spatial analysis 320 (GIS 320) - Credits: 22.00
Soil classification and surveying 350 (GKD 350) - Credits: 14.00
Remote sensing 320 (GMA 320) - Credits: 22.00
Population ecology 351 (ZEN 351) - Credits: 18.00
Community ecology 353 (ZEN 353) - Credits: 18.00
Behavioural ecology 363 (ZEN 363) - Credits: 18.00
Conservation ecology 364 (ZEN 364) - Credits: 18.00