University of Pretoria Yearbook 2016

BSc Extended programme - Mathematical Sciences (02130007)

Duration of study	4 years
Total credits	503

Admission requirements

- In order to register NSC/IEB/Cambridge candidates must comply with the minimum requirements for degree studies as well as the minimum requirements for the relevant study programme.
- 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.

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Minimum requirements for 2016								
Achievement level								
Afrikaans or English				**Mathematics**				**APS**
NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
4	3	D	D	5	3	C	C	26

NBT compulsory

BSc (Actuarial and Financial Mathematics): Admissions from the BSc (Four-year Programme) to the BSc (Actuarial and Financial Mathematics) study programme will only be considered if students have passed all their first-year modules with an average percentage of at least 60% as well as a minimum percentage of 60% for WTW 143 and WTW 153.

Please note

Students admitted to the BSc (Four-year programme) will attend classes at the Mamelodi Campus during the first year. Accommodation is available close to the Mamelodi Campus at the Naledi Residence situated in the Savannah Estate. Students who successfully complete their first year will attend lectures on the Hatfield Campus from their second academic year onwards.

Additional requirements

a. Students who are admitted to one of the BSc four-year programmes register for one specific programme. Three extended programmes are available:

- BSc (Four-year programme) – Mathematical Sciences
- BSc (Four-year programme) – Biological and Agricultural Sciences

- BSc (Four-year 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 (Four-year programme). Generally the BSc (Four-year programme) means that the first study year in Mathematics, Physics, Biology and Chemistry is extended to take two years. After completing the BSc (Four-year 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 four-year 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 four-year 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 (Four-year 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 (Four-year programme), with exceptions as indicated in the regulations pertaining to the BSc (Four-year programme). For instance, students placed in the BSc (Four-year programme) must have a National Senior Certificate with admission for degree purposes.
g. An admissions committee considers applications for the BSc (Four-year programme) annually. Regarding subject choices, admitted students are individually placed on the BSc (Four-year 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

Students register for either one of the following elective combinations in the semester of the first year:

- PHY133 and CMY133 (prerequisite: Level 4 Grade 12 Physical Sciences)
- FRK133 and OBS133

In the second semester of the first year students register for the elective combination based on the combination chosen in the first semester:

- PHY143 and CMY143
- FRK143 and OBS143

With regard to the rest of the third-semester modules(second year, first semester) and the second-semester, prescribed modules must be selected from the normal BSc programme of the student’s choice.

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

Academic promotion requirements
It is expected of students who register for the first year of the BSc (Four-year programme) to pass all the prescribed modules of the first year.
It is expected of students accepted into the BSc (Four-year programme) to finish a complete corresponding BSc first year within the two years of enrolment in the BSc (Four-year 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.

Curriculum: Year 1

Minimum credits: 88

Fundamental modules

Language, life and study skills 133 (LST 133) - Credits: 8.00
Language, life and study skills 143 (LST 143) - Credits: 8.00
Academic information management 111 (AIM 111) - Credits: 4.00
Academic information management 121 (AIM 121) - Credits: 4.00
Academic orientation 120 (UPO 120) - Credits: 0.00

Core modules

Precalculus 133 (WTW 133) - Credits: 8.00
Calculus 143 (WTW 143) - Credits: 8.00
Mathematical statistics 133 (WST 133) - Credits: 8.00
Mathematical statistics 143 (WST 143) - Credits: 8.00

Elective 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
Financial accounting 133 (FRK 133) - Credits: 8.00
Financial accounting 143 (FRK 143) - Credits: 8.00
Business management 133 (OBS 133) - Credits: 8.00
Business management 143 (OBS 143) - Credits: 8.00

Curriculum: Year 2

Minimum credits: 28

Core modules

Calculus 153 (WTW 153) - Credits: 8.00
Mathematical statistics 153 (WST 153) - Credits: 8.00

Elective modules

Chemistry 154 (CMY 154) - Credits: 8.00
Program design: Introduction 110 (COS 110) - Credits: 16.00
Economics 113 (EKN 113) - Credits: 15.00
Economics 123 (EKN 123) - Credits: 15.00
Financial management 120 (FBS 120) - Credits: 10.00
Physics 153 (PHY 153) - Credits: 8.00
Mathematical statistics 121 (WST 121) - Credits: 16.00
Discrete structures 115 (WTW 115) - Credits: 8.00
Numerical analysis 123 (WTW 123) - Credits: 8.00
Mathematical modelling 152 (WTW 152) - Credits: 8.00
Dynamical processes 162 (WTW 162) - Credits: 8.00
Financial management 112 (FBS 112) - Credits: 10.00
Financial management 122 (FBS 122) - Credits: 10.00

Curriculum: Final year

Minimum credits: 28

Core modules

Calculus 153 (WTW 153) - Credits: 8.00
Mathematical statistics 153 (WST 153) - Credits: 8.00

Elective modules

Chemistry 154 (CMY 154) - Credits: 8.00
Program design: Introduction 110 (COS 110) - Credits: 16.00
Economics 113 (EKN 113) - Credits: 15.00
Economics 123 (EKN 123) - Credits: 15.00
Financial management 120 (FBS 120) - Credits: 10.00
Physics 153 (PHY 153) - Credits: 8.00
Mathematical statistics 121 (WST 121) - Credits: 16.00
Discrete structures 115 (WTW 115) - Credits: 8.00
Numerical analysis 123 (WTW 123) - Credits: 8.00
Mathematical modelling 152 (WTW 152) - Credits: 8.00
Dynamical processes 162 (WTW 162) - Credits: 8.00
Financial management 112 (FBS 112) - Credits: 10.00
Financial management 122 (FBS 122) - Credits: 10.00