BSc *Actuarial and Financial Mathematics*

The modern financial world has a growing need for graduates who are well skilled in analytical problem solving, modelling and other quantitative techniques. The programme provides students with a broad education and skills development in these areas. Students can tailor their coursework to either an actuarial or a financial mathematics option.

The actuarial programme is structured to provide the aspiring actuary with the opportunity to fulfil the requirements needed for exemption from the Actuarial Society of South Africa examinations in the shortest possible time. For aspiring financial analysts or financial engineers, the programme provides depth and develops the student's ability to design and analyse financial products.

The ideal candidates are students who achieve seven or more A's easily in high school. They are involved in a variety of sports and cultural activities and usually hold leadership positions throughout high school. They are well-balanced and very motivated.

While not prerequisites at school, prospective students are probably taking and enjoying an AP Mathematics course, where possible. They are also likely to enjoy coding or solving problems using a computer where these opportunities are available.

The study programme prepares students for qualification as actuaries or financial engineers. Specialisation in either of these fields occurs in the third year of study and continues at postgraduate level.

The programme is accredited with the Actuarial Society of South Africa and gives students the opportunity to earn exemptions from the A100 and A200 subjects of the Actuarial Society during their undergraduate degree. To achieve further exemptions, a follow-up honours degree is recommended.

We prepare our students to compete in the actuarial workplace. Large employers of actuarial students speak highly of our graduates and some actively seek students from our programme.

An actuary is a professional who applies analytical, statistical and mathematical skills to financial and business problems. This is especially valuable when facing real-world problems that involve uncertain future events or financial risk. This ability to quantify that which is unclear helps individuals and businesses to safeguard their future, confidently and at a fair price, in an ever-changing world. (Actuarial Society of South Africa).

Many actuaries follow careers in the more traditional fields of insurance and retirement funds. However, actuaries are also increasingly working in other fields following recognition of their analytical skills. This includes healthcare, financial consulting, risk management and banking. Because of their unique skills, many actuaries are appointed to senior management positions after their initial analytical roles.

Financial engineers can be employed by banks and financial institutions, brokerage firms and investment institutions. They are essential in portfolio and risk management. Activities include asset management (trading in bonds, futures and derivative instruments such as options), designing new financial products and devising strategies to control credit risk.

For more information, please consult the Faculty webpage.

Career Opportunities

Actuarial and financial mathematics is a popular field, with career opportunities in the business market and at investment institutions like banks and insurance companies. The skills of mathematicians are essential in portfolio management and the modelling of financial risk. This programme prepares students for professional careers as actuaries or financial engineers. For actuaries or actuarial technicians, activities include long-term capital projects, designing the benefits of medical schemes, the management of pension funds, the determination of contributions and financial management on a sound long-term basis, the evaluation of investments in shares, property and other transactions, and the determination of the premiums and reserves for outstanding claims of insurers. Financial engineers can be employed by banks and financial institutions, brokerage firms and investment institutions. The mathematical skills of financial engineers are essential in portfolio and risk management. Activities include asset management (trading in bonds, futures and derivative instruments such as options), designing new financial products, and devising strategies to control credit risk.

Programme Code

02133395

Closing Dates

- **SA** – 30/06/2023
- **Non-SA** – 30/06/2023

Admission Requirements

Important information for all prospective students for 2024

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.**

Minimum requirements Achievement level		
English Home Language or English First Additional Language	**Mathematics**	**APS**
NSC/IEB	NSC/IEB	
5	7	**36**

Life Orientation is excluded when calculating the APS.

Applicants currently in Grade 12 must apply with their final Grade 11 (or equivalent) results.

Applicants who have completed Grade 12 must apply with their final NSC or equivalent qualification results.

Please note that meeting the minimum academic requirements does not guarantee admission.

Successful candidates will be notified once admitted or conditionally admitted.

Unsuccessful candidates will be notified after 30 June.

Applicants should check their application status regularly on the UP Student Portal at click here.

Applicants with qualifications other than the abovementioned should refer to the Brochure: Undergraduate Programme Information 2024: Qualifications other than the NSC and IEB, available at click here.

International students: Click here.

Transferring students

A transferring student is a student who, at the time of applying at the University of Pretoria (UP) is/was a registered student at another tertiary institution. A transferring student will be considered for

admission based on NSC or equivalent qualification and previous academic performance. Students who have been dismissed from other institutions due to poor academic performance will not be considered for admission to UP.

Closing dates: Same as above.

Returning students

A returning student is a student who, at the time of application for a degree programme is/was a registered student at UP, and wants to transfer to another degree at UP. A returning student will be considered for admission based on NSC or equivalent qualification and previous academic performance.

Note:

- Students who have been excluded/dismissed from a faculty due to poor academic performance may be considered for admission to another programme at UP, as per faculty-specific requirements.
- Only ONE transfer between UP faculties and TWO transfers within a faculty will be allowed.
- Admission of returning students will always depend on the faculty concerned and the availability of space in the programmes for which they apply.

Closing date for applications from returning students

Unless capacity allows for an extension of the closing date, applications from returning students must be submitted before the end of August via your UP Student Centre.

Candidates who do not comply with the minimum admission requirements for BSc (Actuarial and Financial Mathematics), may be considered for admission to the BSc – Extended programme – Mathematical Sciences, which requires an additional year of study.

Please note: Progression from the BSc – Extended programme – Mathematical Sciences 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 their first-year modules will be advised on alternative academic pathways.

Furthermore, admission into the BSc (Actuarial and Financial Mathematics) programme will be considered only if students have passed IAS 111 and have achieved at least 60% in WTW 153 and WST 153.

BSc – Extended Programme – Mathematical Sciences
Minimum requirements
Achievement level

English Home Language or English First Additional Language	Mathematics	APS
NSC/IEB	NSC/IEB	
4	5	**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.

* *BSc Extended programmes are selection programmes. Additional selection criteria apply.* BSc Extended programmes are selection programmes. Additional selection criteria apply.*

Minimum duration of study

3 years, full-time

Faculty Notes

All modules will only be presented in English, which is the University's official language of tuition, communication and correspondence.

The Faculty of Natural and Agricultural Sciences is home to more than 6 500 undergraduate and postgraduate students. The Faculty presents degrees in fields ranging from the proverbial A to Z – from actuaries to zoologists, and consists of 13 departments.

All degree programmes are designed to develop problem-solving individuals who can easily adapt to changing circumstances and take the lead in their chosen fields of specialisation. The qualifications awarded are of world-class and provide access to a multitude of career opportunities for dynamic and creative people. According to the latest Times Higher Education World University Rankings the University has achieved new world rankings in Physical Sciences, a discipline which features strongly in

NAS and also maintains excellent positions on the ISI Web of Science (WOS) field rankings in Plant and Animal Sciences, Agricultural Sciences, and Environment and Ecology Sciences.

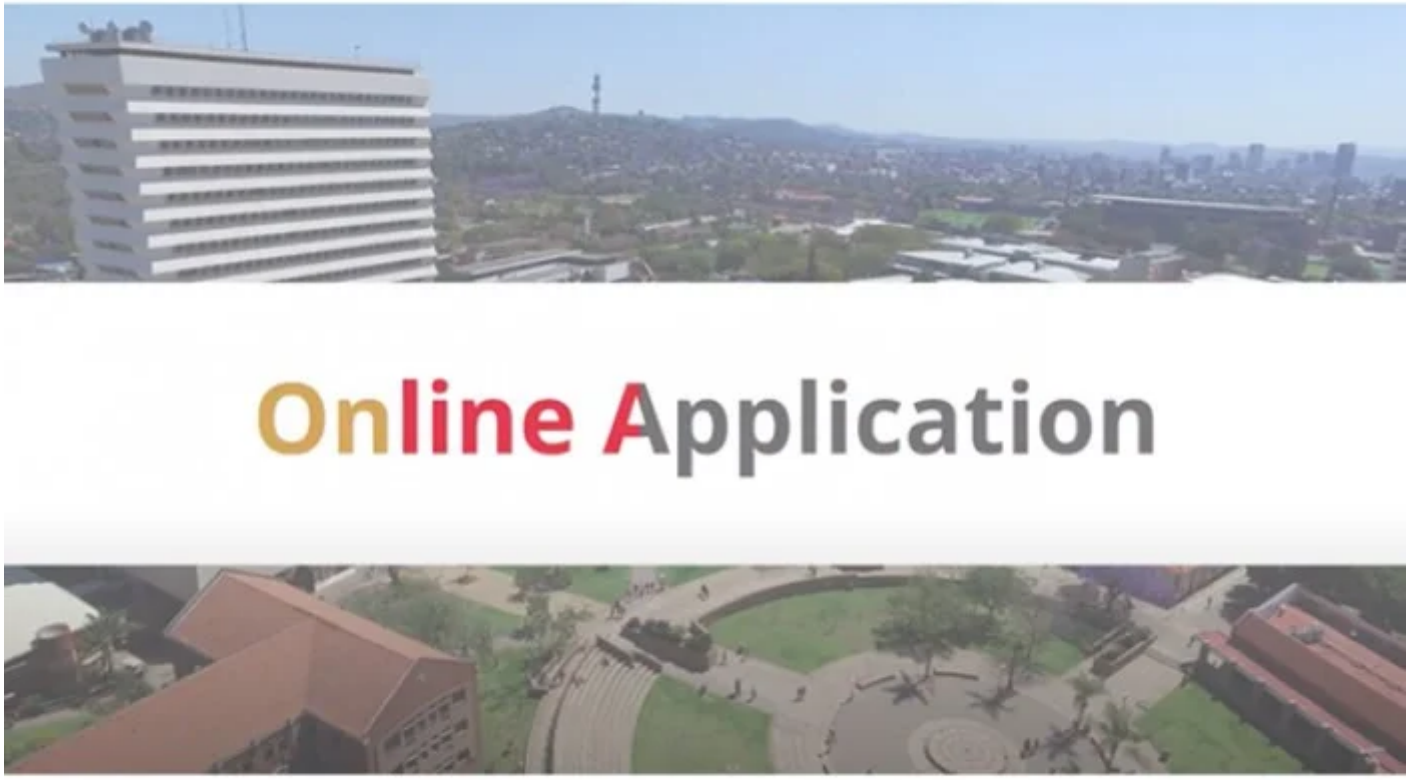
In the Faculty of Natural and Agricultural Sciences, we strive to continuously improve our high impact research and significantly address the national shortage of PhD graduates that respond to global and local challenges.

- ***Disclaimer:*** *This publication contains information about regulations and programmes of the University of Pretoria. Amendments to or updating of the information may be effected from time to time without prior notification. The accuracy, correctness or validity of the information contained here is therefore not guaranteed by the University at any given time and is always subject to verification. The user is kindly requested to verify the correctness of the information with the University at all times. Failure to do so will not give rise to any claim or action of any nature against the University by any party whatsoever.*

Enquiries about the programme

Click Here

How to apply


Online Application

Note: Also consult General Rules and Information on the Yearbook website for additional information.

Disclaimer: Due to the continuous restructuring of the Faculty and this website, some of the information displayed here may not fully reflect the most recent developments in the Faculty. Any discrepancies that are experienced may be taken up with Student Administration of the Faculty.