

BSc Genetics

- [University of Pretoria](#)
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- BSc Genetics

Genetics is the study of how the genetic material in the cells of all living organisms is transmitted from parent to offspring across generations and how that genetic material is encoded and decoded to provide the blueprint of all life on earth. This pioneering discipline is at the core of the biological, agricultural, veterinary and medical sciences and has become essential in fields as diverse as virology and epidemiology, biodiversity conservation and sustainable agriculture.

The advent of advanced technologies continues to enhance existing research strategies. This allows for dynamic interdisciplinary collaboration, not only within the life sciences, but also in fields such as informatics and mathematics. The genomes of numerous animals, plants and pathogens, as well as those of humans, have been decoded. This has led to new informative methods for studying gene interactions at various cellular levels. Computational modelling has proven invaluable to novel gene discovery and understanding the origins and spread of emerging viruses, such as the H1N1-virus.

The Division of Genetics is an active player on the international scientific stage and offers internationally recognised undergraduate and postgraduate degrees. These degrees are research oriented and have a strong emphasis on developing analytical skills. The Department of Genetics offers both single- and dual-major options in its Genetics and Human Genetics programmes. This gives students the choice to specialise in genetics as a single major, or to combine their genetics subjects with a second multidisciplinary major, such as biochemistry, microbiology, plant science or zoology, as well as human physiology in the Human Genetics programme.

At the undergraduate level students are provided with a thorough background in the principles of genetics, as well as the applications of these principles in fields as diverse as genomics, plant and animal biotechnology, diagnostics and risk determination, bioethics and conservation ecology, as well as population, behavioural and evolutionary studies.

For more information, please consult the Faculty webpage.

- **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.*



Career Opportunities

Graduates generally choose to work as molecular biologists, medical or clinical geneticists, cytogeneticists, biotechnologists, agricultural scientists, molecular ecologists, forensic scientists, genetic counsellors, bioinformaticists and computational analysts, veterinary scientists, teachers or lecturers at various institutions and in bioscience-related industries. If students combine genetics with additional qualifications such as law, they will be equipped for success in careers such as patent law, pharmaceutical sales and marketing, project management, computer programming (natural computation) and science journalism. Note that the level of training and qualification plays an important role in determining the type of work in which a qualified geneticist can become involved.

Programme Code

02133402

Closing Dates

- **SA** - 03/07/2020
 - **Non-SA** - 03/07/2020
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Admission Requirements

- The closing date is an administrative admission guideline for non-selection programmes. Once a non-selection programme is full and has reached the institutional targets, then that programme will be closed for further admissions, irrespective of the closing date. However, if the institutional targets have not been met by the closing date, then that programme will remain open for admissions until the institutional targets are met.
 - The following persons will be considered for admission: candidates who are in possession of a certificate that is deemed by the University to be equivalent to the required National Senior Certificate with university endorsement, candidates who are graduates from another tertiary institution or have been granted the status of a graduate of such an institution, and candidates who are graduates of another faculty at the University of Pretoria.
 - Life Orientation is excluded from 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 Grade 12 results.
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- Please note that the Faculty does not accept GED and School of Tomorrow qualifications for entry into our programmes.

Transferring students

Candidates previously registered at UP or at another university

The faculty's Admissions Committee considers applications of candidates who have already completed the final NSC or equivalent qualification examination and/or were previously registered at UP or another university, on grounds of their final NSC or equivalent qualification results as well as academic merit.

Candidates previously registered at a FET college or a university of technology

The faculty's Admissions Committee considers the application of these candidates on the grounds of their final NSC or equivalent qualification results as well as academic merit.

Qualifications from countries other than South Africa

- Citizens from countries other than South Africa and South African citizens with foreign qualifications must comply with all the other admission requirements and the prerequisites for subjects/modules.
- In addition to meeting the admission requirements, admission is based on the performance in the **TOEFL, IELTS or SAT**, if required.
- Candidates must have completed the National Senior Certificate with admission to degree studies or a certificate of conditional exemption on the basis of a candidate's foreign qualifications, the so-called "Immigrant" or "Foreign Conditional Exemption". The only condition for the "Foreign Conditional Exemption" that is accepted is: 'completion of the degree course'. The exemption certificate is obtainable from Universities South Africa (USAf). Detailed information is available on the website at [click here](#).

University of Pretoria website: [click here](#)

Minimum requirements

Achievement level

English Home

Language or

English First

Additional

Language

		Mathematics		Physical Sciences		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. Students in the Cambridge system must offer both Physics AND Chemistry with performance at the level specified for NSC Physical Sciences in the table above.

* International Baccalaureate (IB) HL candidates who obtained at least a 4 in the required subjects, will be considered for admission. Students in the IB system must offer both Physics AND Chemistry with performance at the level specified for NSC Physical Sciences in the table above.

Candidates who do not comply with the minimum admission requirements for BSc (Genetics), may be considered for admission to the BSc – Extended programme -- Biological and Agricultural Sciences. The BSc – Extended programme takes a year longer than the normal programme to complete.

BSc - Extended Programme - Biological and Agricultural Sciences

Minimum requirements

Achievement level

English Home

Language or

English First

Additional

Language

		Mathematics		Physical Sciences		APS
NSC/IEB	AS Level	NSC/IEB	AS Level	NSC/IEB	AS Level	
4	D	4	D	4	D	26

Duration of study

3 years, full-time.

Faculty Notes

The Faculty of Natural and Agricultural Sciences is a diverse faculty with 13 departments that is supported by more than 20 centres and institutes. More than 5 000 students register in this faculty annually of which 70% are undergraduate and 30% postgraduate students.

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.

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.

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.