

# University of Pretoria Yearbook 2024

## BScHons *Genetics* (02240705)

**Department** Biochemistry, Genetics and Microbiology

**Minimum duration of study** 1 year

**Total credits** 135

**NQF level** 08

### Programme information

The honours study programmes serve as the first level of postgraduate training and the aim is therefore to introduce students to the methods of research – from the reading of research papers, through to the conceptualisation, planning, execution and communication of a research project.

### Admission requirements

1. Relevant BSc degree with specialisation in Genetics
2. A weighted average of at least 60% at final-year level
3. An admission examination may be required

### Examinations and pass requirements

A pass mark is required for all the components of the honours study programme and the final honours mark is calculated proportionally to the credits of the respective prescribed modules.

## Curriculum: Final year

**Minimum credits: 135**

### Additional information:

Suitably qualified candidates may also apply for the interdepartmental BScHons Biotechnology (Code 02240393) with a registration in the Division of Genetics. For more information, please refer to the programme information for the BScHons Biotechnology.

## Core modules

### Scientific communication 702 (GTK 702)

<b>Module credits</b>	15.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 1 seminar per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Year

#### Module content

Students are guided to collect relevant and up-to-date literature on large topics from databases using referencing software, and to select and condense relevant papers into the outline for a literature review. Critical reading of research papers, article discussions and presentations. Scientific writing skills.

### Research project 703 (GTK 703)

<b>Module credits</b>	60.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Year

#### Module content

A mini-dissertation with well-defined limits is undertaken under the guidance of a supervisor. The students are allowed to choose from a number of projects from the different research programmes in the department. The module also has a strong theoretical component since emphasis is placed on writing and presenting a comprehensive literature review and project proposal. Additional technical and analytical training is provided. The project is concluded with a final report, presented in the format of a short manuscript, as well as a poster and an oral presentation.

## Trends in genetics 704 (GTK 704)

<b>Module credits</b>	20.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 discussion classes per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Year

### Module content

Discussions and essays focusing on a selection of current topics, as well as recent advances in the field of genetics. There is emphasis on contextualising these developments in the broader framework of the biosciences and its role in the workplace and modern society. Ethical and philosophical issues in genetics are debated. Concepts related to intellectual property, legal issues and biosafety in biotechnology are introduced.

## Research methods 705 (GTK 705)

<b>Module credits</b>	25.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 Practicals/Discussion classes per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Year

### Module content

Students are guided through the methodology of research planning and data handling. They are offered hands-on experience in a range of advanced techniques employed in molecular research and analysis.

## Molecular and cellular biology 721 (MLB 721)

<b>Module credits</b>	15.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 discussion classes per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Year

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## Module content

Principles and applications of recombinant DNA, and other novel molecular and genomics technologies, to address questions in the biological sciences and/or biotechnology. Strong emphasis is placed on the principles of research planning, including identifying suitable research objectives, formulating a research strategy and understanding the relevance and feasibility of research. The module is assessed by means of a research project proposal, conceived and formulated by each student. The proposal must focus on the use of molecular technologies in addressing realistic questions in biology and/or biotechnology. There is also an oral defense of the project proposal.

This module is jointly presented in the Departments of Biochemistry, Genetics and Microbiology and Plant and Soil Sciences.

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### General Academic Regulations and Student Rules

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations. The G Regulations are updated annually and may be amended after the publication of this information.

### Regulations, degree requirements and information

The faculty regulations, information on and requirements for the degrees published here are subject to change and may be amended after the publication of this information.

### University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQSF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.