Postgraduate Diploma

in

Computational Health Informatics

Division of Human Genetics, Faculty of Health Sciences,
University of Cape Town, Cape town, South Africa

Build the computational, statistical and analytical skills needed for the growing intersection of data science, genomics, bioinformatics and healthcare.

The University of Cape Town's Postgraduate Diploma in Computational Health Informatics & Omics Data Science is a one-year, multidisciplinary programme designed for graduates and professionals who want to analyse complex biomedical and health data and translate these insights into research, innovation and improved health outcomes.

Students gain practical experience in:

- High-performance computing
- Python programming for omics
- Biomedical data analysis with R
- Omics data generation
- Omics data mining and machine learning
- Epidemiology and health informatics
- Evolutionary medicine and genomics
- Research ethics, governance, innovation and bio-industry practices

Programme Highlights:

- Programme code: *MG060PTY31*
- Duration: 1 year, full-time
- Credits: 120
- Delivery: Primarily online, with a two-week contact session in Cape Town
- Structure: 8 specialised compulsory modules

Application Closing Date:
30 September 2026

Who Should Apply?

Graduates in health sciences, biological and life sciences, bioinformatics, computer science, statistics, mathematics, engineering and related disciplines are encouraged to apply.

Apply Here

www.uct.ac.za

Where Can It Take You?

The programme prepares graduates for opportunities in biomedical and health research, bioinformatics and genomics, public health, precision medicine, biotechnology and pharmaceutical industries, healthcare data science and the growing bioeconomy.

Is there funding available?

The programme does not currently provide funding to support students. However, applicants are encouraged to explore UCT-linked and external funding opportunities for which they may be eligible.

One example is the Mastercard Foundation Scholars Program at UCT:
Mastercard Scholarship

Courses on Offer: Please note that the course is not yet in the UCT handbook.

High-Performance Computing

This module provides an applied introduction to high-performance computing (HPC) and equips students with the skills required to process and analyse large-scale biomedical data efficiently.

Omics Programming with Python

This module provides students with the programming foundations required to process, analyse and manage large-scale biological datasets.

Biomedical Data Analysis with R

This module focuses on the statistical analysis and interpretation of biomedical and omics data using the R programming language.

Omics Data Generation

This module introduces the principles and methodologies underlying the generation of omics data.

Omics Evolutionary Medicine

This module introduces omics medicine with a strong emphasis on evolutionary biology and its applications in biomedical research.

Omics Data Mining

This module provides a comprehensive introduction to omics data mining within a multidisciplinary framework encompassing genomics, epigenomics, transcriptomics, proteomics and metabolomics.

Data Science for Epidemiology and Health Informatics

This module provides training in study design and data analysis for epidemiology and health informatics, with an emphasis on integrating clinical and genomic data.

Omics Research and Bio-Industry Practices

This module examines the interface between biomedical research and bio-industry practices within a dynamic and innovation-driven environment.

For further information, please contact:
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