GENETICS

FACULTY OF SCIENCE

SCAN ME

Students taking the Genetics major in the Department of Molecular & Cell Biology will be taught fundamental concepts in classical, microbial, molecular and evolutionary genetics.

Classical genetics is the study of heritability and variation in living organisms, whilst molecular genetics is concerned with understanding the structure and function of genes at the molecular level. Genomics considers the comparative study of genomes of living organisms. The Genetics major emphasizes the core biological processes of gene regulation and cell signalling in bacteria, plants and animals, and integrating this knowledge with our understanding of disease, development and evolution.

WHO WOULD BE INTERESTED IN THIS MAJOR?

Students with an interest in learning about the latest tools in molecular genetics and genomics, and applying them to problems in the life and health sciences. Students should have an enquiring mind and enjoy problem solving.

The Genetics major is suitable for students who wish to co-major in Biochemistry, Biology, Chemistry, Human Anatomy & Physiology or Quantitative Biology.

WHAT COURSES WILL YOU TAKE?

The compulsory courses listed below must be included in your selection of courses for a major in Genetics.

1ST YEAR LEVEL COURSES

- Cell Biology
- Biological Diversity
- Chemistry 1000
- Mathematics 1004
- Bionumeracy or Introductory Statistics

2ND YEAR LEVEL COURSES

- Biological Information Transfer
- Molecular Bioscience
- Functional Genetics

3RD YEAR LEVEL COURSES

- Recombinant DNA, Genomics & Proteomics
- Molecular Evolutionary Genetics & Development
- Research Project

CAREER OPPORTUNITIES FOR GRADUATES

A qualification in Genetics will open up several career pathways to you. Universities require researchers, technicians and lecturers in a wide range of genetics-related fields. Genetics plays an important role in Medicine, and jobs are available in clinical molecular genetics, genetic counselling, research, molecular diagnostics and pharmacogenomics. In the agriculture, pharmaceutical, food and biotechnology industries, a training in Genetics is important for jobs in management, research, writing and reporting, marketing, sales and public relations. The government sector requires administrators, managers, and officers with knowledge of Genetics for decisions in science policy, regulation, advice, legislation and awarding research grants. Other jobs include scientific publishing, patent law, gene and paternity testing, DNA forensics, and conservation.

MINIMUM ADMISSION AND SUBJECT REQUIREMENTS

FPS of 550 (but admission only guaranteed at FPS above 660)
Mathematics 70% & Physical Science 60%
NBT in Mathematics, AL & QL to be written