

# Bachelor of Science (Hons) Bioinformatics

## Introduction

The BSc (Hons) in Bioinformatics programme is a three year programme conducted by Faculty of Applied Sciences. Bioinformatics is a new, exciting and challenging multidisciplinary field that combines mathematical, statistical, computer science and information technology methods to solve problems in biology. The programme is an outcome based curriculum, which aims to produce quality graduates that are able to work in Bioinformatics industries; bioinformatics research and educational institution; next generation sequence analysis; drug discovery and molecular evolution.

The BSc (Hons) Bioinformatics programme brings together the knowledge of bioinformatics with the tremendous potential of biotechnological tools for wealth and knowledge creation. Advances in experimental technologies have produced huge amounts of data. Therefore, managing and extracting useful information from these sources are important if we are to discover new knowledge to advance our understanding of the living world. The BSc (Hons) Bioinformatics programme provides an alternative study option for students interested in bioinformatics.

YEAR	COURSES
FIRST	Basic Chemistry Genetics Biodiversity Cell and Molecular Biology Microbiology Biochemistry Biocomputing Humanistic Perspective in Biotechnology Biophysics
SECOND	Genetic Engineering Bioinstrumentation Proteomics and RNomics Object Oriented Programming with C++ Cell Culture Biostatistics Bioinformatics Perl Programming and Bioperl Downstream Processing Biomathematics Introduction to Algorithms Bioinformatics Trends Permutations and Combinations Virology
THIRD	Research Project Research Methodology Molecular Modeling Next Generation Sequence Analysis Artificial Neural Network Biopython Metabolomics Pharmacogenomics Comparative Genetics Web Designing and Internet Programming Molecular Evolution Bioethics, Bioregulation & Biosafety Business Management Database Management System Forensic Science

## Career Opportunities

Bioinformatics Researcher  
Bioinformatics Facilities Manager  
Bioinformatics Software Engineer  
Bioinformatics Computer Programmer  
Biology System Analyst  
Computational Biology Developer  
Data Analyst



## Minimum Entry Requirements

- A-Levels / STPM/ equivalent**  
Min pass in 3 subjects, including Biology  
(CGPA  $\geq$  2.0)
- AIMST Foundation in Science/ Foundation/ Matriculation/ Pre-University Programme in related field**  
Pass in 3 subjects, including Biology  
(minimum 50% or Grade C or CGPA of 2.0)
- CIMP / SAM / CPU / MUFY / NSW/ HSC / UNSW Foundation**  
Grades C, C, C in 3 subjects, including Biology
- Diploma in related field (Computer Science, Information Technology, Health Sciences)**  
Pass  
(minimum 50% or Grade C or CGPA  $\geq$  2.0)
- Degree or equivalent in related field (Computer Science, Information Technology, Health Sciences or any diploma in Science)**  
Pass  
(minimum 50% or Grade C or CGPA  $\geq$  2.0)
- International Baccalaureate**  
Pass with min score of 24 points.
- Other qualifications**  
To be referred to KPT.