

HIGHER NITEC IN BIOTECHNOLOGY

Core Modules

Introductory Chemistry

On completion of the module, students should be able to perform manual titration, as well as identify the common elements of organic molecules, nomenclature used, chemical structure and bonding, common functional groups, and the properties associated with the various functional groups of organic compounds.

Analytical Chemistry

On completion of the module, students should be able to perform analysis using simple equipment to perform pH test, automated titration, physical tests, extractions, gravimetric and particle size analysis.

Laboratory Techniques and Quality Control

On completion of the module, students should be able to prepare stock solution and perform dilution, maintain the quality standards of chemical laboratory, including record-keeping for traceability purposes, calibration of measuring instruments, and application of quality control tools for laboratory applications.

Laboratory Mathematics and Data Analysis

On completion of the module, students should be able to apply the various mathematical principles such as algebra, logarithms and graphs construction for laboratory operations and analysis. They should also be able to collate data and perform basic functions using common software programme.

General Microbiology

On completion of the module, students should be able to handle the micro-organisms safely, perform isolation of micro-organisms, identify the characteristics of common groups of micro-organisms, and perform various techniques for their microscopy and cultivation.

Analytical Biochemistry

On completion of the module, students should be able to perform the analysis of biological compounds using various biochemical and chromatographic techniques as well as to interpret the results obtained.

Molecular Bioscience

On completion of the module, students should be able to perform various molecular biology techniques for the manipulation and analysis of proteins and DNA.

Industry Attachment

Students are provided with the opportunity to work in a laboratory-based environment to gain hands-on training in the real work environment.