

## HIGHER NITEC IN TECHNOLOGY – CHEMICAL TECHNOLOGY

Course Code: HTCHT

### COURSE OBJECTIVE

This course provides students with the skills and knowledge to carry out prescribed procedures and techniques required for sample processing and analyses of chemicals applicable to the pharmaceutical, petrochemical/chemical, polymer, food and environmental industries.

### COURSE STRUCTURE

S/N	Module Details	Module Code	Module Objectives
C1	<b>Introductory Chemistry</b> 45 hrs (T) 75 hrs (P) Credits: 5 Prerequisite: Nil	LS4006FP	On completion of this 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.
		Equivalent Codes LS4001FP LS4001FPR	
C2	<b>Analytical Chemistry</b> 30 hrs (T) 80 hrs (P) Credits: 4 Prerequisite: Nil	LS4007FP	On completion of this 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.
		Equivalent Codes LS4002FP LS4002FPR	
C3	<b>Laboratory Techniques and Quality Control</b> 40 hrs (T) 50 hrs (P) Credits: 3 Prerequisite: Nil	LS4005FP	On completion of this 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.
		Equivalent Codes LS4004FP LS4004FPR	
C4	<b>Sample Handling and Processing</b> 39 hrs (T) 81 hrs (P) Credits: 5 Prerequisite: Nil	LS4010FP	On completion of the module, students should be able to perform common sample pre-treatment methodologies, as well as sampling activities and processes which comply with industrial standards such as cGMP and GLP.
		Equivalent Codes LS5005FP LS5005FPR	
C5	<b>Basic Instrumental Analysis</b> 39 hrs (T) 81 hrs (P) Credits: 7 Prerequisite: Advised to complete LS4001FP & LS4002FP	LS5012FP	On completion of the module, students should be able to perform various modes of spectroscopy, which include ultra-violet and infrared spectrometry, atomic spectrometry, and the applications of inductive-coupled plasma and thermal bench instruments. They will also be able to troubleshoot and maintain spectroscopic and thermal bench instruments.
		Equivalent Codes LS5006FP LS5006FPR	
C6	<b>Advanced Instrumental Analysis</b> 39 hrs (T) 81 hrs (P) Credits: 7 Prerequisite: Advised to complete LS5006FP	LS5013FP	On completion of the module, students should be able to perform the various modes of chromatography, which include High Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), LC-Mass Spectrometry and GC-Mass Spectrometry. They will also be able to troubleshoot and conduct basic routine maintenance for chromatographic instruments.
		Equivalent Codes LS5007FP LS5007FPR	

Abbreviations: T - Theory, P - Practical

### CREDITS FOR CERTIFICATION

Total of 31 credits from successful completion of 6 modules.

### VENUE

ITE College East

Note:

- 1) The training schedule of lessons is subject to change.

- 2) Depending on the demand, not all the modules in the CET *Higher Nitec* in Technology courses will be offered in each intake. Where the modules are offered and there is insufficient enrolment, the classes will be cancelled and a full refund will be given to the affected students.