

General Electives and Life Skills Modules for *Higher Nitec* Courses under enhanced three-year curricular structure

Training is conducted on a modular basis. Students have to complete core, specialisation, life skills modules and a number of elective modules to obtain the necessary credits for certification. Students who wish to progress to higher level of learning should take the Mathematics electives. The General Electives and Life Skills Modules are given in the Tables below:

GENERAL ELECTIVES		
MODULES	CREDIT UNITS	MODULE OBJECTIVES
AI-Powered Robot Programming	2	On completion of the module, students should be able to apply low-code programming techniques to perform various operations in AI-powered robot.
Basic Python Programming	2	On completion of the module, students should be able to perform scripting using python for solving problems.
Bridging Mathematics 1	3	On completion of the module, students should be able to apply knowledge of mathematics to solve engineering related problems involving the use of algebra, graphs, exponents, trigonometry, simultaneous and quadratic equations.
Bridging Mathematics 2	3	On completion of the module, students should be able to apply knowledge of mathematics to solve engineering related problems involving the use of indices, surds, trigonometric functions, exponential and logarithmic functions, matrices, differential and integration.
Fundamentals of Industrial Automation	2	On completion of the module, students should be able to interpret, design, construct, test and troubleshoot electro-mechanical control systems which include common input/output devices, electromechanical relay and timer relay.
Fundamentals of IT Tech Support	2	On completion of the module, students should be able to set up, configure and troubleshoot end-user computing systems, as well as prevent basic security risks. They should also be able to identify and explain the basic concepts of computing, IT infrastructure and software development.
Interfacing and Programming with IoT Computer	2	On completion of the module, students are trained to set up a working environment for an IoT computer, administer its operating system and deploy high level language programs to interface the IoT computer to the external devices.
Introduction to Drone Technology & Applications	2	On completion of the module, students should be able to perform drone setup and flight plan, as well as apply the concept of drone, theory of flight and different types of application using drone technology.
Introduction to Facial Recognition with Machine Learning	2	On completion of the module, students should be able to appreciate machine learning concepts and configure a facial recognition system using a Single Board Computer (SBC).
Introduce to Video Analytics & Applications	2	On completion of the module, students should be able to configure various types of video capturing and recording devices for video analytics applications
Marine Electronics Servicing	2	On completion of the module, students should be able to identify, troubleshoot and rectify faults in marine electronics systems.
Overseas Institution Elective	3	On completion of the module, students should be able to develop self-confidence and independence as well as appreciate the cross-cultural differences in a dynamic global environment when they undertake training related to their course of study in a foreign country.
Overseas Work Attachment	2	On completion of the module, students should be able to sing using proper techniques.

MODULES	CREDIT UNITS	MODULE OBJECTIVES
Technical Mathematics	2	On completion of the module, students should be able to use basic arithmetic, algebra, indices and graphs to solve engineering-related problems.
Video Creation for Social Media	2	On completion of the course, students should be able to record, edit and produce an original social media video based on the respective platform requirements and client's specifications.

LIFE SKILLS MODULES (FOR HIGHER NITEC AND NITEC COURSES)

MODULES	CREDIT UNITS	MODULE OBJECTIVES
Personal and Professional Development I	2	On completion of the module, students would be equipped with the knowledge and skills to be effective individuals and team players in the social and workplace context.
Personal and Professional Development II	2	On completion of the module, students would be equipped with the knowledge and skills to prepare for challenges and opportunities at the future workplace.
Personal and Professional Development III	2	On completion of the module, students would be equipped with the knowledge and skills to develop discerning skills and be thinking individuals and team players, ready to embrace new and innovative endeavours, as well as to embrace lifelong learning.
LifeSkills Electives	2	On completion of the module, students would be provided with a range of enriching and functional topics, aimed to broaden and deepen their knowledge and skills for personal and professional development.
Sports and Wellness 1	1	On completion of the module, students should be able to acquire the skills and knowledge to maintain an active and healthy lifestyle. In addition, they will participate in a variety of sports and will grow to appreciate good sporting values such as excellence, teamwork and respect.
Sports and Wellness 2	1	
Sports and Wellness 3	1	
Sports and Wellness 4	1	