

General Electives and Life Skills Modules for *Higher Nitec* Courses (excluding *Higher Nitec* courses under 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.
Aquaculture Techniques	2	On completion of the module, students should be able to perform basic technical skills required in aquaculture, such as setting up filtration unit, packaging, feeding, water testing and treatment of common fish diseases.
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.
Calculus (Integration)	2	On completion of the module, students should be able to apply knowledge of mathematics to solve engineering related problems involving the use of integration.
Dance Techniques	2	On completion of the module, students should be able to perform movement phrases/Sequences of dance choreographies.
Electrotechnology	2	On completion of the module, students will be trained in the basic electrical machines, which include magnetism, transformers, AC single-phase circuits, single phase induction motors and DC motors.
Fundamentals of Acting	2	On completion of the module, students should be able to apply acting skills to stage and perform a short production/presentation.
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.
HSE Management (Building)	2	On completion of the module, students are trained to comprehend workplace HSE regulations and framework; identify environmental and safety hazards; implement appropriate risk controls; and competent in Working-At-Heights.
HSE Management (Mechanical)	2	On completion of the module, students are trained to comprehend workplace HSE regulations and framework; identify environmental and safety hazards and implement appropriate risk controls.
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.

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Introduction to Facial Recognition	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).
Mobile Video for Marketing	2	On completion of the module, students should be able to record and edit video on mobile phone with proper techniques and using social media to market their video.
New Media Storytelling	2	On completion of the module, students should be equipped with the knowledge and skills to develop a compelling visual narrative. Using visual media such as photography, graphics and videos, they are able to share ideas in a story through media platforms to engage targeted audience.
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	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 work related to their course of study in a foreign country.
Photography Essentials	2	On completion of the module, students should be able to apply the fundamentals of photography skill learnt e.g. composition technique, photography principles and camera terminologies which will help in their field of study.
Robotics Essentials	2	On completion of the module, students should be able to integrate and maintain a robotics system.
Singing Techniques	2	On completion of the module, students should be able to sing using proper techniques.
Smart Living Solutions	2	On completion of the module, students should be able to set up and configure an automated home which comprises of sensors, utilities measurement devices, actuators, IoT / media gateway and interactive mobile devices.
Sustainable Agriculture & Aquaculture Engineering	2	On completion of this module, the students should have the capability to analyse various equipment issues and applications within agriculture and aquaculture systems. Students will also be able to employ IoT sensors to monitor the systems' performance, analyse the data collected from the sensors and apply Augmented Reality for Predictive Maintenance.
Technology Entrepreneurship	4	On completion of the module, students should be able to conceptualise their ideas into technologically innovative solutions, and create business plan for new technology venture.
Visual Basic Programming	2	On completion of the module, students should be able to apply the concepts of computer programming and write simple programs using Visual Basic programming language in windows environment.
Wireless Digital Locking Technology	2	On completion of the module, students should be able to install, maintain and commission wireless digital locking system.

LIFE SKILLS MODULES

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	

*only for selected courses