General Electives and Life Skills Modules for *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.
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.
Circular Electronics - Computer Refurbishment	2	On completion of the module, students should be able to assess hardware component visually or through system configuration, identify compatible components for replacement, perform replacements based on different setups, doing maintenance and restore backups. They should be able to explain the process of performing computer refurbishment and its impact on the environment.
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 Green Electronics & Sustainability	2	On completion of the module, students should be able to interpret Green Electronics and Environmental Standards, as well as apply and implement sustainable electronics design and applications, in compliance with sustainability principles and practices.
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.
Generative AI for Business	2	On completion of the module, students would be able to perform content generation, design automation and personalise recommendations using accessible AI tools without coding knowledge. Students will also be able to derive AI-backed decisions and enhance productivity for different business settings with ethics and challenges clearly addressed.
Health Safety & Environment	2	On completion of the module, students should be able to understand and apply the fundamentals of construction safety, WSH (Risk Management) Regulations, and Code of Practice on WSH Risk Management.
Immersive Environment Design	2	On completion of the module, students should be able to use a rapid game engine to design a simulated environment that provides an immersive experience to users.
Infographics for Presentation & Marketing	2	On completion of the module, students should be able to communicate their presentation information more effectively through colours, visuals and infographics

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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	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	3	On completion of the module, students should be able to sing using proper techniques.
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

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 & Wellness 1	1	On completion of the module, students should be able to: • Acquire the skills and knowledge to achieve healthy body/mind and active lifestyle • Engage actively in sports and recreational activities • Imbue core values through sports and games • Develop critical core skills through physical fitness and activities
Sports & Wellness 2	1	
Sports & Wellness 3	1	
Sports & Wellness 4	1	