General Electives and Life Skills Modules for *Nitec* Courses

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.

GENERAL ELECTIVES

MODULES	CREDIT UNITS	MODULE OBJECTIVES
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.
Basic Aerobics Instructions	3	On completion of the module, students should have a working knowledge of the objectives of group exercise, the components of fitness; class formatting, music guidelines, cueing and choreography techniques. Students should be able to conduct basic aerobics group exercise sessions.
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.
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 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.
Group Fitness Exercise	3	On completion of the module, students should be able to understand the objectives of group exercise and the types of classes in the industry, understand the usage of cueing and choreography techniques, music and equipment in a group exercise class, design and teach a basic level group exercise class and promote health and wellness to class participants.
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.
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).
Laser Show Production	2	On completion of the module, students should be able to apply the knowledge of laser software programme in producing an entertainment laser show.

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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.
Nutrition and Health	2	On completion of the module, students should be able to identify the common public health concerns in Singapore, various nutrients found in foods and their functions, as well as provide suggestions for healthier food choices.
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.
Safety Audit and Risk Assessment	2	On completion of the module, students should be able to identify potential hazard at workplace and implement risk control measures to ensure a safe work environment.
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.
Technical Mathematics (EC)	3	On completion of the module, students should be able to apply knowledge of mathematics to solve engineering related problems involving the use of basic arithmetic, algebra, indices, graphs and trigonometry.
Technical Mathematics (PE)	3	On completion of the module, students should be able to understand mathematical principles and to apply knowledge of engineering mathematics to solve problems in a clear and logical way.
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.
Theory and Practice of Coaching	3	On completion of the module, students should be able to perform the role of an assistant coach. This module provides students with the knowledge of the basis of sound coaching practice for beginner coaches. It covers the fundamental elements of coaching, the roles of the coach, growth & development of athletes, safety issues, skills analysis and skills development.

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Cross-cultural Understanding	3	On completion of the module, students should be able to establish and maintain cross-cultural relationships, as well as organise and participate in multicultural networking activities.
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.
Workplace First Aid and CPR	2	On completion of the module, students should be able to apply basic concepts and principles of first aid to render first aid treatment at the workplace and perform CPR during an emergency.

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.
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	