

GENERAL ELECTIVES

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 for Higher Nitec Course

| 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. |
| 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. |
| Cyber Wellness | 2 | On completion of the module, students should be able to identify dangers and risks in using the internet and to protect themselves from dangers in cyberspace. |
| 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. |

| MODULES | CREDIT UNITS | MODULE OBJECTIVES |
|---|--------------|---|
| 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. |
| 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. |
| Project Management | 2 | On completion of the module, students should be able to plan, track and monitor projects. |
| 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. |
| 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. |
| Technology Entrepreneurship | 4 | On completion of the module, students should be able to conceptualise their ideas into technological 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. |

General Electives for Nitec Course

| 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. |
| 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. |
| Cyber Wellness | 2 | On completion of the module, students should be able to identify dangers and risks in using the internet and to protect themselves from dangers in cyberspace. |
| 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 Cafe Operations | 3 | On completion of the module, students should be able to set up café operations; take orders; and prepare and serve food products including coffee and tea beverages. |

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|----------------------------------|--------------|---|
| 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. |
| 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. |
| Project Management | 2 | On completion of the module, students should be able to plan, track and monitor projects. |
| 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. |
| 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 technological innovative solutions, and create business plan for new technology venture. |

COMMON ELECTIVES (GENERAL)

| MODULES | CREDIT UNITS | MODULE OBJECTIVES |
|-------------------------------------|--------------|---|
| 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. |
| Understanding Foreign Cultures | 3 | On completion of the module, students should be able to understand the geographical facts, lifestyles, cultural issues and social etiquette that must be taken into account when working in a multicultural setting. |
| 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 (for Higher Nitec & 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 I | 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 II | 1 | |
| Sports and Wellness III | 1 | |
| Sports and Wellness IV | 1 | |