

# HIGHER NITEC IN MARINE & OFFSHORE TECHNOLOGY

## CERTIFICATION

Credits required for certification:

Core Modules	: 55
Life Skills Modules	: 9
Elective Modules	: 4
<hr/> Total	<hr/> : 68

## COURSE STRUCTURE

Module Title	Credits
<b>CORE MODULES</b>	
Quality Engineering	8
Ship Systems	8
Welding Technology	7
Fabrication Technology	8
Pipe Design and Systems	7
Offshore Technology	9
Internship Programme	8
<b>ELECTIVES (COURSE SPECIFIC)</b>	
Basic Naval Architecture	3
Ship and Offshore Survey	3
<b>ELECTIVES (INTER-DISCIPLINARY)</b>	
Green Marine Technology	2
Powered Watercraft Driving Essentials	2
<b>ELECTIVES (GENERAL) AND LIFE SKILLS MODULES</b>	
For details, click <a href="#">here</a>	

*Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.*

## MODULE OBJECTIVES

### Core Modules

#### Quality Engineering

On completion of the module, students should be able to conduct preliminary safety inspection, perform hazard identification and risk assessment. Students should also be able to verify general arrangement drawings, monitor quality control systems, perform inspection work on brazed joints, heat treatment of materials, cable arrangement, electrical circuits, and perform dimensional checks of engineering components.

#### Ship Systems

On completion of the module, students should be able to service, maintain propulsion components system, pneumatic and hydraulic control systems components; perform inspection work on deck machinery and alignment of marine machinery.

### Welding Technology

On completion of the module, students should be able to interpret welding procedures, perform butt, fillet, groove weld joints using submerged arc welding, shield metal arc welding, flux-cored arc welding, and gas tungsten arc welding in flat, horizontal and vertical positions. Students should also be able to rectify weld defects, perform non-destructive tests on weld metals and do operational calibration of welding machine.

### Fabrication Technology

On completion of the module, students should be able to produce 2-D CAD drawings and sketches of 3-D assembly drawings. Students should also be able to plan resources and work schedules, perform structural markings, read lines plan drawings, carry out development of plates and pipes, material surface inspections, nesting and take-off and prepare load for lifting operations.

### Pipe Design and Systems

On completion of the module, students should be able to produce P & ID drawings, isometric drawings of pipe routing plan and prepare pipes cutting plans. Students should also be able to perform pipe spool assembly, dimension checks on pipe spools, and perform leak tests on piping systems.

### Offshore Technology

On completion of the module, students should be able to produce electrical single-line drawings, maintain DC and AC equipment, perform dimension control and level checks of offshore structures, co-ordinate the erection of temporary supports, perform leak and watertightness tests and assist in system testing and commissioning.

### Internship Programme

Students will undertake a 6-month internship programme at shipyards, marine related workshop or work place to gain hands-on marine related practical training.

## Electives (Course Specific)

### Basic Naval Architecture

On completion of the module, students should be able to produce lines plans drawings from offset tables, perform ship form and stability calculations.

### Ship and Offshore Survey

On completion of the module, students should be able to co-ordinate vessel survey activities, perform survey on steelwork and produce survey report on recommendations of rectified works.

## Electives (Inter-disciplinary)

### Green Marine Technology

On completion of the module, students will have an understanding on the need to reduce the environmental impact of shipping and other related marine activities and to promote clean and green technology for the maritime industry.

### Powered Watercraft Driving Essentials

On completion of the elective module, students will be provided with the necessary knowledge and skills in good seamanship for safe handling and navigating of powered pleasure watercraft within Singapore waters.

## Electives (General) and Life Skills Modules

For details, click [here](#).