

**List of Competencies for On-the-Job Training (OJT)  
Work-Study Diploma in Marine & Offshore Engineering**

Note: LOC is subject to changes due to curriculum review/ development

<b>S/N</b>	<b>List of Competencies (Standard) Production (Repair &amp; Maintenance) Specialisation</b>	<b>Company to indicate '✓' for OJT competencies it can provide</b>
1	Implement Workplace Safety and Health (WSH) programme	
2	Perform permit-to-work applications	
3	Perform risk assessment for shipyard activities	
4	Conduct accident investigation	
5	Prepare material take off (MTO)	
6	Install marine and offshore systems	
7	Test marine and offshore systems	
8	Fabricate steel structures and hull blocks	
9	Produce ship general compartment and tank drawings	
10	Produce lines plan	
11	Produce docking and integrity plans	
12	Prepare for installation of marine equipment onboard ships and offshore vessel	
13	Install marine equipment on board ships and offshore vessel	
14	Service marine systems	
15	Troubleshoot marine system	
16	Install main switchboard, transformer and emergency backup system/standby system	
17	Maintain main switchboard, transformer and emergency backup system/standby system	
18	Troubleshoot electrical installation	
19	Install electric propulsion system for Electrified Marine Vessel (EMV)	
20	Generate pre-commissioning checklist	
21	Perform testing of marine and offshore component	
22	Perform pre-commissioning of marine and offshore systems	
23	Perform commissioning of marine and offshore systems	
24	Analyse the quality performance of production processes	
25	Perform inspection of marine machinery alignment	
26	Perform inspection on welding activities	
27	Perform tests on blasting and painting activities	

S/N	List of Competencies (Standard) Production (Repair & Maintenance) Specialisation	Company to indicate '✓' for OJT competencies it can provide
28	Perform project planning	
29	Perform project execution	
30	Supervise project progress	
31	Manage project's problem	
32	Produce evaluation report on setup of wind farm	
33	Manage the integration of sustainable fuel	
34	Manage environmental compliance requirements	
35	Apply sustainable production technology	
	<b>Sub-total of Competencies (Standard)</b>	
<b>List of Competencies (Company-specific)</b>		
1		
2		
3		
4		
5		
6		
7		
8		
9		
	<b>Sub-total of Competencies (Company-specific)</b>	

**Note:**

- Company must be able to provide OJT for at least **75%** of the List of Competencies (Standard).
- If company is unable to meet the 75%, please propose alternate **course-related** competencies which are unique to company operations. Alternate competencies are capped at 25%.  
*[i.e. 50% of the list of competencies (standard) + 25% alternate competencies (Company-specific)].*
- All alternate competencies (Company-specific) must be reviewed and endorsed by ITE.
- Trainees must receive OJT and be assessed for **All** competencies selected in this List.

Total no. of competencies selected by company for OJT

Total no. of competencies listed (*standard & company specific*)

Percentage of selected competencies

**Completed By:**

\_\_\_\_\_  
**Name**

\_\_\_\_\_  
**Company**

*Version: Oct'25*

# MODULE SYNOPSIS – WSDip in Marine & Offshore Engineering, Production (Repair & Maintenance)

## **Course Objective**

The Diploma in Marine & Offshore Engineering course equips trainees with the skills, knowledge and professional attributes to design ships, offshore structures and marine systems for the Engineering Design specialization, or to supervise the repair, maintenance and commissioning work for ships, offshore structures and marine systems for the Production (Repair & Maintenance) specialization. Both specializations also includes skills on marine sustainability engineering and project management.

## **Modules Synopsis**

### **Workplace Safety & Health Management at Shipyard**

On completion of the module, trainees should be able to apply the knowledge in Workplace Safety & Health Management and operational aspects of marine safety at the shipyard and production workshops.

### **Marine Production Technology**

On completion of the module, trainees should be equipped with the knowledge basic properties and applications of materials. They should also be able to fabricate, install and test marine and offshore platform piping systems and steel structures and blocks for marine vessels and offshore installations.

### **Fundamental of Marine Design & Drafting**

On completion of the module, trainees should be able to interpret ship general arrangement drawings, tank arrangement drawings and block assembly drawings. They should also be able to produce lines, docking and integrity plans.

### **Marine Machinery & Systems**

On completion of the module, trainees should be able to assemble, service, troubleshoot and repair components and machinery of various marine systems onboard ships and offshore installations. They should also be able to carry out testing and inspections for the operation of these marine systems.

### **Marine Electrotechnology & Automation**

On completion of the module, trainees should be able to install, service and repair electrical equipment used on board marine vessels and offshore installations. They should also be able to carry out testing, fault diagnosis and maintenance of instrumentation and control equipment commonly used in marine and offshore applications.

### **Marine & Offshore System Commissioning**

On completion of the module, trainees should be able to perform testing and commissioning of various marine systems and equipment for ships and offshore vessels, in accordance with commissioning procedure.

## **MODULE SYNOPSIS – WSDip in Marine & Offshore Engineering, Production (Repair & Maintenance)**

### **Quality Engineering**

On completion of the module, trainees should be able to adopt quality control tools for process improvement and carry out quality inspections on machinery alignment welding activities and blasting and painting activities.

### **Marine Sustainable Engineering**

On completion of the module, trainees should be able to assess offshore wind farm setups, plan the integration of sustainable fuels, ensure compliance with environmental regulations, and implement sustainable production technologies within the renewable / sustainable energy sector.

### **Project Management**

On completion of the module, trainees should be able to apply the knowledge in newbuilding processes, shipyard organization, material flow and key concepts of management process, critical path analysis, and use of computer applications for project administration of ship repair or newbuilding projects.

### **Company Project**

On completion of the module, trainees should have applied their acquired competencies in an authentic project that would value-add to the company.

# TRAINING PATTERN SCHEDULE

## WSDip in Marine & Offshore Engineering

**Hybrid Release - Trainees attend daily lessons at ITE for a continuous period at the start, and after will attend lessons for one day per a week and spend the remainder of the work-week at the workplace for OJT.**

April'26 Intake	April – June 2026	ITE Vacation (June) 4 weeks	July – September 2026	ITE Vacation (Sept) 2 weeks	October – December 2026	ITE Vacation (Dec) 4 weeks	January – March 2027	ITE Vacation (March) 2 weeks
<b>1<sup>st</sup> Year Off-JT @ ITE</b>	<b>5 weeks block</b>		<b>OJT</b>		<b>8 weeks OJT followed by 1 day/week</b>		<b>1 day/week</b>	
April'26 Intake	April – June 2027	ITE Vacation (June) 4 weeks	July – September 2027	ITE Vacation (Sept) 2 weeks	October – December 2027	ITE Vacation (Dec) 4 weeks	October – December 2028	ITE Vacation (March) 2 weeks
<b>2<sup>nd</sup> Year Off-JT @ ITE</b>	<b>1 day/week</b>		<b>6 weeks block followed by 1 day/week</b>		<b>5 weeks OJT followed by 1 day/week</b>		<b>1 day/week</b>	
April'26 Intake	April – June 2028	ITE Vacation (June) 4 weeks	July – September 2028	ITE Vacation (Sept) 2 weeks	<b>WSDip Programme 2026</b> <b>Start: 1 April 2026</b> <b>End: 30 September 2028</b> <b>Duration: 2.5 years</b>  <b>Final results release may be later than programme end date</b>			
<b>3<sup>rd</sup> Year Off-JT @ ITE</b>	<b>1 day/week for 8 weeks</b>		<b>3 weeks OJT followed by 1 day/week</b>					