

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

<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 materials 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 execution plan for installation of specific machinery, equipment and/or systems	
13	Install marine equipment on-board ships and offshore vessel	
14	Service marine systems component	
15	Troubleshoot marine auxiliary system	
16	Install main switchboard, transformer and emergency back-up system/stand-by system	
17	Maintain main switchboard, transformer and emergency back-up system/stand-by system	
18	Troubleshoot electrical installation	
19	Install marine electrical propulsion system for Electrified Marine Vehicle (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 of 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	Coordinate department meeting	
29	Manage work problems	
30	Monitor execution of department goals	
31	Perform project planning	
32	Perform project execution	
33	Monitor project progress	
	<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**

\_\_\_\_\_  
**Designation**

\_\_\_\_\_  
**Date**

For ITE's Completion					
<b>Reviewed by CED / College</b> <i>(For Company-specific Competencies)</i>			<b>Verified by IBT Officer</b>		
Name:				Name & Date:	
Designation:		Date:			

Version: June'23

# **WORK-STUDY DIPLOMA IN MARINE & OFFSHORE ENGINEERING**

## **Module Objectives**

### **Year 1 Modules**

#### **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 in basic properties and applications of materials. They should also be able to install and test marine and offshore systems and fabricate 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.

### **Year 2 Specialisation Modules (Production [ Repair & Maintenance] )**

#### **Marine Machinery & Systems**

On completion of the module, trainees should be able to assemble, service, maintain and install 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 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.

#### **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.

## **Year 3 Modules**

### **Effective Supervision**

On completion of the module, trainees should be able to perform supervision in the marine industry and possess design thinking and communication skills in their approach towards complex issues and problems.

### **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.

### **On-the-Job Training**

On completion of the module, trainees should be able to apply the skills and knowledge acquired at ITE College and workplace to take on the full job scope, including supervisory function, where appropriate, at the company.

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52																						
Semester	Semester 1																										Semester 2																																															
	5 Weeks				5 Weeks				4 Weeks				8 Weeks						2 Weeks		2 Weeks		8 Weeks						2 Weeks		4 Weeks				8 Weeks						* 2 Weeks		2 Weeks																															
Year 1	Full time in ITE				OJT at Company																																																OJT at Company						1 day per week OffJT in ITE and 4 days per week OJT at Company		OJT at Company				1 day per week OffJT in ITE and 4 days per week OJT at company						OJT at Company			
Semester	Semester 3																										Semester 4																																															
	6 Weeks				4 Weeks				4 Weeks				8 Weeks						2 Weeks		2 Weeks		5 Weeks				5 Weeks				4 Weeks Vacation				8 Weeks						* 2 Weeks		2 Weeks																															
Year 2	Full time in ITE				1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company				1 day per week OffJT in ITE and 4 days per week OJT at Company						OJT at Company				OJT at Company				1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company				1 day per week OffJT in ITE and 4 days per week OJT at Company						OJT at Company																																	
Semester	Semester 5																																																																									
	2 Weeks		4 Weeks				4 Weeks				7 Weeks						5 Weeks				2 Weeks		2 Weeks																																																			
Year 3	Full time in ITE		1 day per week OffJT in ITE and 4 days per week OJT at Company						OJT at Company						1 day per week OffJT in ITE and 4 days per week OJT at Company				OJT at Company																																																							

\* Integrated assessment at end of Year 1 and Year 2 terms  
Total required Off OJT hrs = 900 hrs  
Total required OJT hrs = 3100 hrs  
Grand Total Training hrs = 900 hrs + 3100 hrs = 4000 hrs

- Full-time training in ITE
- One day per week - day-release in ITE
- On-the-Job training in company
- Examination