

1. Course Title: Pre-Sea Fitter-Cum-Welder (FCW) Rating

2. Scope With reference to convention Imo Model Course: This course is intended for fresh trainees who have not previously served on board a ship to prepare them for working as engine ratings. This training, together with the Basic Safety Training (STCW Code A-VI/1.2) and company arranged Training will cover the mandatory minimum training requirement prescribed in Regulation VI/1 and III/4-2.2.2 of International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW), (as amended) Code.

Main content of the course covers orientation and familiarization of ship in general and machinery space and machinery, equipment & plants therein in particular. This includes training on duties, functions, responsibilities and watch keeping in addition to Emergency, Safety and Survival.

3. Objective:

1. This Course will provide sufficient knowledge for a person intending to go to sea as an Engine Rating to operate and work on the shipboard machinery and systems typical of either motor or steam ship in a safe and efficient manner.
2. On successful completion of this Course, the participant should be able to:
 - a. Describe the basic layout of a typical engine room and its piping systems with the essential components, their functions, interconnections and safety and pollution hazards.
 - b. Identify the common types of fuels, lubricants, solvents etc used on board, stating their purpose and safety hazards.
 - c. Identify the individual components, which make up the items of shipboard machinery used in the engine room and elsewhere.
 - d. Understand the requirements and procedures for watch keeping in the machinery space as an engine rating.

4. Course Outline Shore base & On board Training:

Subject Area	Hour
Ship and Ship Familiarization	06hrs
Engineering Knowledge	24hrs
Deck machinery	6hrs
Machinery Operation	36 hrs
Welding, brazing and cutting	24 hrs
Safety in Welding	06 hrs
Preparation Entering enclosed or confined spaces	03 hrs
Assessment of the site for safety	06 hrs
Under water welding and cutting	1.5 hrs
Auto welding and cutting	1.0 hrs
Workshop Practice	75 hrs
Practical on Gas welding, Gas cutting, Arc welding	80 hrs
Visits	18 hrs
Assessment	12 hrs
Total	300 hrs

5. Competence Standard/Course Syllabus Checked with up-to-date STCW/IMO Model Course:

PROFESSIONAL TRAINING (289 Hrs)

Ship and Ship Familiarization	06hrs
Introduction	
Ship, shipboard organization, structure and process	
Department of Shipping, Government of Bangladesh	

Seafarers and ship owner organizations	
Seafarer and the Law	
Engineering Knowledge	24hrs
Machinery space layout	
Items in the machinery space	
Tanks	
Propulsion system	
Piping systems	
Heat Exchangers	
Power generation	
Hydraulics	
Steering gear	
UMS (unmanned machinery space) operation	
Deck machinery	6hrs
Winches and Windlass	
Lifting gears	
Machinery Operation	36 hrs
Pumps	
Air Compressors	
Purifiers	
Diesel Engines	
Air conditioning and Refrigeration plant	
Pollution prevention and control equipment	
Safe working practice in machinery space	
Welding, brazing and cutting	24 hrs
o Brief description of welding	
o Joining metals	
o Types of welding and its application components and spares	
o Components and spares	
o Preparation for welding (Gas welding/Gas cutting/Arc welding)	
o Preparation for job (Plates, Angles, Bar, Pipes etc.)	
o Welding symbol	
o Welding Techniques	
o Soldering and brazing techniques	
o Faults in welding	
Safety in Welding	06 hrs
o Introduction	
o Welding instruction	
o Personal protection	
o Welding Fumes	
o Safety Check list	
Preparation Entering enclosed or confined spaces	03 hrs
Assessment of the site for safety	06 hrs
Tanks, combustible materials, HP Fuel pipe/Gas pipe/Electrical cable, Safe Earthings etc.	
Safety and precaution about the danger of shipboard hot work and welding	
Under water welding and cutting	1.5 hrs
Auto welding and cutting	1.0 hrs
Store management:	
How to store the -	

○ Electrodes, Gas bottles.	
○ Gas Welding/cutting sets.	
○ Welding machine maintenance.	
○ Maintenance of other, related equipment.	

Workshop Practice	75 hrs
Personal, general and machine safety	
Lathe work	
Universal machine works	
File and filing	
Drilling machines and drills	
Measuring, testing and gauging tools	
Fitting	
Hand tools	
Practical on Gas welding, Gas cutting, Arc welding	80 hrs
Horizontal welding	
Flat welding	
Vertical welding	
Overhead welding	
Visits	18 hrs
Ship	
Dry-dock	
Marine Workshop	
Assessment	12 hrs
Theory	
Practical	
Total	300 hrs

6. Entry Standard, Selection Criteria of Students:

Passed Secondary school Certificate

Age limits: 16-20 years.

7. Intake limitation, with specific mention Instructor-student ratio:

For practical exercises student/teacher ratio should not exceed 10:1

8. Qualification and experience of instructors:

Minimum qualification of any instructor must be Class 4 Marine Engineer officer certificate of competency or equivalent with relevant sea experience.

9. Qualification and experience of assessors: The practical exercises must be conducted and achievement of competency must be assessed under the supervision of a retained or serving fire fighter (or a person with equivalent qualifications and experience). The person conducting the practical training must be in possession of a recognized First Aid qualification. The ratio of staff to students for the practical exercises involving live fires or the use of breathing apparatus should not exceed 1:8.

10. Details Facilities & Equipment, materials and resources available for the training; Visual aids lecture Notes, Library facilities, Rental documents, Workshops Training Equipment: Navigational, Engineering, Communication, Seamanship etc:

To be in corporate.

11. Conduct of Training with number of classroom lectures, practical work use of simulator, video etc:

Day / Period	1 st Period 0900-0930	2 nd Period 0945-1030	3 rd Period 1030-1115	TEA BREAK 1115-1145	5 th Period 1145-1230	6 th Period 1230-1315	7 th Period 1315-1400
Sunday	ENG	ENG	WBC	TEA BREAK	WBC	WS	WS
Monday	ENG	ENG	WBC		WBC	WS	WS
Tuesday	ENG	ENG	WBC		WBC	WS	WS
Wednesday	ENG	ENG	WBC		WBC	WS	WS
Thursday	ENG	ENG	WBC		WBC	WS	WS

12. Total duration of Training; Duration of Practical's:

Theory- 208.0 hrs.

Practical- 80.0 hrs.

Assessment- 12.0 hrs.

13. Assessment procedure, whether independent of instruction or continuous performance evaluation:

Short answer, multiple choice, fill in the blanks, hot spot, true/false and sketch labeling type questions in a written test are used for assessment, Practical assessment includes direct observation of ability under realistic situation.

14. Formats of certificate to be issued with correct reference to STCW and reference to approval and authorization by the Department of Shipping and contact point of the issuing institution for verifying authenticity:

Cert No : 2017.02.000131.R

DoS No :2017.02.000131.R

**PRE-SEA (FITTER-CUM-WELDER) RATING TRAINING
CERTIFICATE**



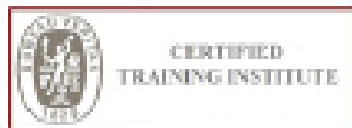
This is to certify that,

Mr. MD. RAFIQU ALAM Son of Mr. MD. ABDUL LATIF SARKER Date & Place of Birth 02-Feb-1985 & COMILLA has successfully completed a course on PRE-SEA (FITTER-CUM-WELDER) RATING TRAINING CERTIFICATE conducted at the National Maritime Institute, Chittagong, Bangladesh.

from 01-Feb-2017 to 24-Aug-2017

The course has the approval of the Department of Shipping, Government of the People's Republic of Bangladesh.

Date of Issue : 28-Sep-2017



15. Maintenance of records in Data-base for facilitation of checking including assessments:

NMI will maintain a data-base of all the students who have completed the course. The following records for each individual will be kept so as to ensure that the certificate is issued to a candidate who has met the requirements as laid down by the governing authority regarding issuance of a certificate on Bridge Resource Management.

- Application form
- Assessment papers after completion of course
- Attendance Sheet
- Attested Xerox copy of the issued certificates & licenses
- A registered data-base in hard copy and soft form

16. Internal Quality Standard System if any. Students Impressions, past results:

The institute maintains quality standard system ISO 9001:2008, Certified by DNV GL

17. Course notice served, course conducted as per course notice, progression report served:

Will be complied as per DOS Instruction.

18. Attendance of Students and Instructors:

Students and Instructor attendance sheet attached.



Annex- 03

NATIONAL MARITIME INSTITUTE

TRAINING RECORD

Instructor:

Venue:

Subject:

Brief description on training material:

Attendance:

Name & rank	Sign	Name & rank	Sign	Name & rank	Sign

Signature
Management Representative

Signature
Principal