1. Course Title: Advanced Fire Fighting (AFF)

2. Scope With reference to convention Imo Model Course:

The scope of the course is the training requirement of Section A-VI/3 of the STCW Code.

3. Objective:

The objective of this course is to train the personnel to make them capable of demonstrating the required minimum standard of competence set out in Table A-VI/3 of STCW '78 as amended for seafarers who may be designated to control fire-fighting operations.

4. Course Outline Shore base & On board Training:

Subject area	Hour
1.1 Introduction, safety and principles	**0.5**
1.2 Areas of fire hazard	**0.75**
1.3 Fire precautions	**0.75**
1.4 Dry distillation	**0.5**
1.5 Chemical reactions	**0.5**
1.6 Boiler uptake fires and exhaust fires in prime movers and auxiliary exhausts	**0.5**
1.7 Fires in water-tube boilers	**0.5**
1.8 Tactics and procedure of fire control while ship is at sea	**0.5**
1.9 Tactics and procedure of fire control while ship in port	**0.5**
1.10 Tactics and procedure of fire control while ship is carrying dangerous goods	**0.5**
1.11 Tactics and procedure of fire control for oil, chemical and gas tankers	**0.5**
1.12 Use of water for fire extinguishing, the effect on stability, precautions and corrective procedures	**0.25**
1.13 Communication and co-ordination during fire-fighting operations	**0.25**
1.14 Ventilation control including smoke extractor	**0.25**
1.15 Control of fuel and electrical systems	**0.25**
1.16 Fire precautions and hazards associated with the storage and handling of materials (paints etc.)	**0.25**
1.17 Management and control of injured persons (1.5 hours)	**1.5**
1.18 Procedures for co-ordination with shore-based fire fighters	**0.25**
Competence 2: Organize and train fire parties	
2.1 Preparation of contingency plans	0.25
2.2 Composition and allocation of personnel to fire parties	0.75
2.3 Training of seafarers in fire fighting	**3.5**
2.4 Fire control plans	**0.25**
2.5 Organization of fire and abandon ship drills	**0.75**
2.6 Strategies and tactics for control of fires in various parts of the ship	**0.5**
Competence 3: Inspect and service fire detection and extinguishing systems and equipment	
3.1 Fire alarms	0.5
3.2 Fire detection equipment	0.75
3.3 Fixed fire extinguishing equipment	**1.0**
3.4 Fire main, hydrants, hoses and nozzles and pumps	**1.0**
3.6 Firefighter's outfits and other personal protective equipment	1.0
3.7 Rescue and life support equipment	**1.5**
3.8 Salvage equipment	0.5

3.9 Communication equipment	0.75
3.10 Requirements for statutory and classification surveys	**1.0**
Competence 4: Investigate and compile reports on incidents involving fire	
4.1 Fire investigation and reporting	2.0
4.2 Trainee's experience of fires on ships	1.0
4.3 Documented reports of fires on ships and lessons learned	**2.0**

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

Knowledge, understanding and proficiency	**Hour**		
Competence 1 : Control fire-fighting operations aboard ship			
1.10 Introduction, safety and principles	**0.5**		
.1 lists the main aim of the course as:			
to organize and train fine parties	-	-	-
to inspect and service fire detection and extinguishing systems and equipment	-	-	-
to control fire-fighting operations aboard ships	-	-	-
to investigate and compile reports on incidents involving fire	-	-	-
.2 state the safety rules laid down by the Chief Instructor which must be adhered to during the course			
.3 lists the principle of survival in relation to fire as:			
knowledge of theory of fire precautions	-	-	-
regular and realistic training and drills	-	-	-
formulation of contingency plans for fire emergency	-	-	-
identification of emergency escape	-	-	-
identification of dangers of smoke and toxic fires	-	-	-
regular inspection and maintenance of:	-	-	-
• fire-detection equipment			
• portable and mobile fire extinguishers			
• fixed fire-fighting equipment			
• firefighters outfit			
1.11 Areas of fire hazard	**0.75**		
.1 lists, for fires in the machinery space:			
causes, including:	-	-	-
• combustible liquids leaking through faulty or damaged connections			
• oil-soaked insulation			
• hot surfaces, e.g. exhaust pipes, engine parts overheating in close proximity to oil lines			
• defects in lagging			
• hot work, e.g. oil dropping on hot surface			
- methods of containment, including:	-	-	-
• watertight doors			
• dampers			
• water sprays and screens, and remote control of these where applicable			
methods of detection, including:	-	-	-
• smoke detectors			
• high-temperature probes			

• rate-of-rise of temperature probes			
• patrols			
fire appliance, including:			
• fixed systems, e.g. water, foam and carbon dioxide			
• portable, e.g. water, foam, carbon dioxide and powder			
• mobile, e.g. foam, carbon dioxide and powder			
.2 lists, for fires in the accommodation:			
- causes, including:			
• combustible materials			
• matches and cigarette smoking, including careless disposal of burning cigarettes or ash			
• textiles adjacent to hot objects such as radiators and lamps			
• defective and overloaded electrical systems			
• in a laundry, incorrect installation of a tumble drier or failure to keep it clean			
- methods of containment, including:	-	-	-
• fire doors and dampers			
• sprinkler system			
• fire-retardant materials in construction			
• fire-retardant materials in construction			
• fire-retardant deck coverings			
• fire-retardant furnishings			
- methods of detection, including:	-	-	-
• smoke detectors			
• temperature probes			
• sprinkler system			
• patrols			
- fire appliances, including:	-	-	-
• fixed system, e.g. water hydrants and hoses			
• portable, e.g. water			
.3 lists, for fires in the galley:			
- causes, including:	-	-	-
• overheating of combustible liquids and fats			
• overheating of deep-fat fryers			
• hot surfaces			
• defective electrical connections			
• greasy flues			
- methods of containment, including:	-	-	-
• fire doors, ventilation and flue dampers			
• fire blankets			
- methods of detection, including:	-	-	-
• fire doors, ventilation and flue dampers			
• fire blankets			
- methods of detection, including:	-	-	-
patrols			
- fire appliances, including:	-	-	-
• fixed system, e.g. water hydrants and hoses			
• portable, e.g. water (not for fat or oil fires), carbon dioxide and powder			

.4 lists, for fires in the radio room or battery room and for electrical fires:			
- causes, including:	-	-	-
• overloading and short circuits			
• defective insulation			
• fractured and loose connections			
• in battery room, build-up of hydrogen (due to lack of ventilation) and its ignition, e.g. from smoking			
- methods of containment, including:	-	-	-
• fire doors			
- methods of detection, including:	-	-	-
• observation			
- fire appliances, including portable, e.g. carbon dioxide and powder	-	-	-
.5 lists, for fires in holds and in containers:			
- causes, including:	-	-	-
• cargoes liable to self-heating and spontaneous combustion (coal, copra), bulk cargoes liable to emit flammable gas (coal, direct reduced iron)			
• loss of integrity of packages containing explosive, flammable or reactive substances			
• collection of oily materials as a result of insufficient cleaning and of leakage from tanks			
- methods of containment, including:	-	-	-
• hatch covers, 'tween-decks and hull structure			
• use of dampers			
• remote control of extinguishing media			
- methods of detection, including:	-	-	-
• smoke detectors			
• temperature probes			
- fire appliances, including:	-	-	-
• fixed systems, e.g. water spray, high-expansion foam and carbon dioxide			
• portable, e.g. water, foam, powder and carbon dioxide			
• mobile, e.g. foam-making equipment			
.6 fire precautions and hazards associated with the storage and handling of materials (parts etc.) lists, for flammable ship's stores:			
- potentially hazardous materials, which include:	-	-	-
• paints and varnishes approved by an Administration			
• lubricating oils			
• cleaning fluids, paint thinners, paraffin			
• fuel for motor lifeboats and emergency engines			
• oxygen and acetylence cylinders			
- approved storage areas for such materials, e.g.	-	-	-
• paint store			
• deck lockers			
- prohibited storage area for paints, oils, cleaning fluids, e.g.	-	-	-
• paint store			
• deck lockers			
- prohibited storage area for paints, oils, cleaning fluids, e.g.	-	-	-

• accommodation			
• machinery space			
- approved methods of handling between shore and ship in order to avoid:	-	-	-
• spillage			
• ignition from any cause			
• delay in transporting the materials from shore to storage			
1.12 Fire precautions	**0.75**		
.1 lists structural fire-protection provisions, including:			
- division of the ship into main vertical zones by thermal and structural boundaries			
- inert gas protection on tankers			
- lockers for combustible materials			
use of flame-retardant materials			
- flame screens and other devices for preventing the passage of flame	-	-	-
- the use of steel	-	-	-
- provisions with respect to the fire main: diameter, pressure	-	-	-
.2 describes fire-fighting equipment and systems for a passenger ship, including:			
- distribution and quantity of:	-	-	-
• fire-extinguishing gas_1 Co_2			
• hydrants and fire hoses			
• portable fire extinguishers			
• sprinklers			
• firefighter's outfits			
- arrangements for the supply of power and water, including emergency supplies	-	-	-
- spaces subject to automatic fire detection	-	-	-
- provision of emergency controls	-	-	-
.3 lists operations required, including:			
- maintain cleanliness on board	-	-	-
- ensuring observance of smoking only in approved spaces	-	-	-
- keeping doors closed	-	-	-
- maintenance of fire appliances, including fire dampers	-	-	-
- observance of approved fire-fighting methods	-	-	-
- observance of regular fire drills and instructions	-	-	-
.4 explains the organizations and tasks of fire parties, including:			
- making best use of available personnel:	-	-	-
• need to be flexible in choice			
• personnel are to be trained to use different equipment			
• how to establish who is on board and available			
• how to establish who is on board and available			
• training in agreed method for establishing which members of fire parties are in fire zone			
- the choosing assembly points for fire parties:	-	-	-
• difference between assembly point and site of fire			
• how an assembly point is indicated			
• considerations in choosing suitable assembly points			

• communications between assembly points and bridge			
- initial and subsequent actions of fire parties on hearing alarm:	-	-	-
• considers dangers of entering a space which is on fire			
• observes restriction on the use of certain fire-fighting media			
• considers means for resolving conflict between the need for prompt action and the prevention of wrong action			
• has a full knowledge of the muster list			
.5 states procedures which must be observed when a ship is in a dockyard for repairs, including:			
- safety procedures for dockyard personnel	-	-	-
- responsibility for fire fighting	-	-	-
- control of testing	-	-	-
1.13 Dry distillation	**0.5**		
.1 defines dry distillation as a combustion process in which a flammable material burns with insufficient oxygen to achieve complete combustion of the materials			
.2 states that an example of dry distillation is the making of charcoal			
.3 lists the following sequence of events as an example of the damager of dry distillation:			
- fire is in a closed space	-	-	-
- heat builds up but there is incomplete burning	-	-	-
- the opening of an access introduces fresh air	-	-	-
- the result is a flash towards the access opening	-	-	-
- persons in the process of entering will be injured or burned unless they are protected	-	-	-
.4 states that dangers of dry distillation may be mitigated by:			
- cooling the compartment externally by hosing it with water.	-	-	-
- entering the access in a crouched position behind a water screen (spray nozzle)	-	-	-
- directing water towards the celling of the space on fire	-	-	-
.5 explains, because of the above, the inadvisability of taking hurried action when smoke is seen issuing from a closed cabin.			
1.14 Chemical reactions	**0.5**		
.1 defines chemical reactions as the effect of the addition of one or more of the following substances to a chemical:			
- water	-	-	-
- heat	-	-	-
- steam	-	-	-
- foam	-	-	-
- carbon dioxide	-	-	-
- sand	-	-	-
.2 lists some of the effects as:			
- explosion from the development of flammable gas	-	-	-
- spontaneous combustion	-	-	-
- the development of toxic fumes	-	-	-
- the generation of smoke	-	-	-
.3 states that chemical reactions during fire fighting are more likely to occur with fires in cargoes and in accommodation areas			
.4 lists some examples of chemical reactions causing or exacerbating fires,			

including.			
- the production of acetylene when calcium carbide comes into contact with water	-	-	-
- the decomposition of steam when applied to coal fires	-	-	-
- the production of hydrogen when Direct Reduced Iron (DRI) comes into contact with water.	-	-	-
- oxidizing cargoes, such as some fertilizers, sustaining a fire even if blanketed in an extinguishing gas	-	-	-
- cargoes spontaneously igniting in air, e.g. phosphorus when in packaging gets damaged	-	-	-
- self-heating of cargoes such as grain when wet	-	-	-
- production of methane in coal cargoes to dangerous levels when ventilation is restricted	-	-	-
.5 states that the correct response to fire in dangerous goods is given in the Emergency Procedures for Ships Carrying Dangerous Goods			
.6 states that the correct response to fire in bulk materials possessing chemical hazards is given in the Emergency Schedules of the Code of Safe Practice for Solid Build Cargoes			
.7 with the aid of the General Index of the IMDG Code and the Emergency Procedures of Ships Carrying Dangerous Goods, determines the response action for a fire in a given substance.			
.8 with the aid of the Code of Safe Practice of Solid Bulk Cargoes, determines the response action for fire in a given bulk cargo			
1.15 Boiler uptake fires and exhaust fires in prime movers and auxiliary exhausts	**0.5**		
.1 defines boiler uptake fires as those occurring in:			
- uptakes, economizers and air heaters for steamships	-	-	-
- exhaust pipes, economizers and waste-heat boilers of ships propelled by internal-combustion engines	-	-	-
.2 states that the usual cause of such fires is an accumulation of carbon deposits, with or without oil, which become overheated and catch fire			
.3 states that the difficulties and hazards of fighting these fires are:			
- inaccessibility of all sections of the uptake in the upper section of the engine room	-	-	-
- the possibility of explosion if access doors to the economizer are opened	-	-	-
- the possibility of the economizer tubes reaching a temperature of 700^0C, when the following can take place:	-	-	-
• the iron in the tubes will burn in steam			
• the reaction will be self-sustaining and will generate heat			
- the products of combustion will be black oxide of iron and free hydrogen	-	-	-
- the burning of iron in steam will be back oxide of iron and free hydrogen	-	-	-
- the burning of iron in steam will be independent of supply of oxygen	-	-	-
- the hydrogen produced will burn if air is introduced	-	-	-
- explosion	-	-	-
.4 states that a procedure for containing and extinguishing the fire is to:			
- shut down the boiler and/or main engine	-	-	-

- spray the external surfaces in the way of the fire with water to keep the temperature down	-	-	-
- close necessary dampers and other equipment below the fire zone against water damage	-	-	-
- protect essential electrical and other equipment below the fire zone against water damage	-	-	-
- continue cooling until it is considered safe to open the economizer for examination and thorough cleaning on the fire side	-	-	-
1.16 Fires in water-tube boilers	**0.5**		
.1 states that iron-in-steam fires can occur in water-tube boilers due to:			
- shortage of water in the boiler causing overheating of the tubes above the water level and undue delay in shutting down the boiler	-	-	-
- an uncontrollable soot fire in the furnace after a boiler has been shut down in a port, coupled with a shortage of water in the boiler causing overheating the tubes above the water level	-	-	-
.2 states that if fire is discovered before the temperature of the tube has reached 700^0C, the preferred method of fire fighting is:			
- to direct through burner aperture, or equivalent, the maximum amount of water available as solid jets and through feed pumps to the source of the fire, assuming boiler tubes have fractured or boned	-	-	-
- to keep air casings and uptakes cool by hosing them with water	-	-	-
- to avoid using fire spray nozzles, foam appliances or carbon dioxide directly on the fire	-	-	-
.3 states that the fire-fighting procedures in competence 1.6 must be used if the iron-in-steam fire has developed.			
1.17 Tactics and procedure of fire control while ship is at sea	**0.5**		
.1 states that, when the fire alarm is given, the fire procedure and the emergency stations procedure are put into effect, for example:			
- the crew assembles at the designated fire stations as given on the muster	-	-	-
- the fire parties assemble, on orders from the bridge, and carry out their tasks aimed at containing the fire	-	-	-
- the ships' course and speed are altered as necessary to assist in containing the fire	-	-	-
- the pumps are prepared to dispose of extinguishing water	-	-	-
- for engine-room fires, the ship is topped	-	-	-
- the master decides the most appropriate method for fighting the fire and this is implemented by the fire officer	-	-	-
for engine-room fires, early preparations are made to launch lifeboats			
.2states that the master controls the fire fighting operations from the bridge, as indicated in competence 2.1			
.3 states that when the fire is extinguished, a fire-watch is kept, the requirement for emergency stations is cancelled and an investigation into the fire, as indicated in competence 4.1, is begun			
1.18 Tactics and procedure of fire control while ship in port	**0.5**		
.1 states that, when the fire alarm is given, the fire procedure and the emergency stations procedure are put into effect, as indicated in competence 1.8 above			
.2 procedures for co-ordination with shore-based fire fighters states that the following addition procedures must be followed:			

- call the port fire brigade	-	-	-
- inform the appropriate authority	-	-	-
- confirm with harbour master that the master of the ship will remain in overall charge	-	-	-
- confirm with harbour master that the fire brigade will take charge of the fire-fighting operations, assisted by the crew as required	-	-	-
- confirm wit harbour master that he will keep the master informed of any hazards to the dock installation and any actions required	-	-	-
- check who is on board	-	-	-
- make preparations for ship to leave port if required, either by own power or wit help of tugs	-	-	-
- evacuate non-essential personnel	-	-	-
1.10 Tactics and procedure of fire control while ship is carrying dangerous goods	**0.5**		
.1 states that the stowage plan should be marked to show the position and class of dangerous goods			
.2 states that a fire-fighting plan should be prepared showing which fire-fighting media and appliances can safely be used			
.3 states that the dangers and the consequent risk to the crew should be assessed when the cargo is loaded			
.4 states that, when the fire alarm is given, the fire procedure and the emergency procedure are put into effect, as indicated in competence 1.8			
.5 states the danger of rushing into action without knowing the nature of the cargo			
.6 states that, when the fire has been extinguished, a fire-watch is kept, the requirement for emergency stations is cancelled and investigation into the fire, as indicated in competence 4.1, is begun.			
1.19 Tactics and procedure of fire control for oil, chemical and gas tankers	**0.5**		
.1 states that, when the fire alarm is given, the fire procedure and the emergency procedure are put into effect, as indicated in competence 1.8			
.2 states that the additional requirements for a tanker include:			
- a fixed fire-extinguishing system in the pump room	-	-	-
- remotely controlled foam monitors on the deck	-	-	-
- an inert gas system for the cargo tanks	-	-	-
- isolation valves fitted in the fire main the poop front and at specified distances forward of the poop front to allow:	-	-	-
• control of the water supply to the foam monitors in the event of damage to the fire main			
• control of the water supply if the emergency fire pump is in use			
- a division into gas-dangerous and gas-free spaces	-	-	-
- strict segregation between cargo spaces and systems and machinery/accommodation spaces and systems	-	-	-
.3 states that, when the fire has been extinguished, a fire-watch is kept, the requirement for emergency stations is cancelled and an investigation into the fire, as indicated n competence 4.1, is begun			
1.20 Use of water for fire extinguishing, the effect on stability, precautions and corrective procedures	**0.25**		

.1 states that addition of water in large amounts, particularly in cargo hold, causes stability problem as free surface effect of water will come into effect thereby reducing the GM of the ship			
.2 states that draining of particular cargo hold which is flooded to extinguish fire is absolutely important to avoid the free surface effect of water.			
.3 states that addition of water in cargo holds carrying cargoes such as grain and paper pump is risky as cargo swells which could cause rupture of shell plates and bulk head plates. Addition of water for fighting fire in such cases is to be judicially monitored during the entire fire-fighting operation			
1.21 Communication and co-ordination during fire-fighting operations	**0.25**		
.1 states that communication and co-ordination during fire-fighting operations is two-fold, i.e. internal communication and co-ordination in the ship and external with the management representatives of owner, classification society and coastal states for external assistance			
.2 states that master is in charge of the entire fire-fighting operation.			
.3 states that the internal communication with control station, site of fire and master shall adhere to the contingency plan			
.4 states that walkie-talkie and ship's internal telephone systems are vital in developing internal communication in addition to direct communication by messengers			
.5 states that external communication links should be documented in contingency plan, including links to ship owner, classification society and neighboring states			
1.22 Ventilation control including smoke extractor	**0.25**		
.1 states that ventilation system is the weakest spot in zonal system of passenger and crew accommodation and must be controlled so that fires do not propagate from one zone/compartment to the adjacent one through ventilation ducts			
.2 states that the respective ventilator flaps and draught stops must be closed to avoid spread of fire adjacent compartments.			
.3 states that accommodation A.C. blower suction flaps must be closed during accommodation fire			
.4 states that cargo hold ventilation flaps must be closed in the hold affected by fire			
.5 states that engine room ventilation flaps must be closed in case of engine room fire			
.6 states that smoke extractor and smoke sampling devices are used for large ro-ro and passenger ships carrying more than 36 passengers. States further that smoke extractor systems shall be used only at the discretion of the master to evacuate passengers and facilitate fire fighting thereafter. States that the capacity of the smoke extractor shall be one change of air in 10 minutes.			
1.23 Control of fuel and electrical systems	**0.25**		
.1 states why shutting off fuel supply from setting tanks is essential in engine-room fires			
.2 states that closing off fuel to main engine and auxiliary engines is required from outside engine-rooms in case of major engine-room fire			
.3 states that fuel transfer pumps and separators need to be shut off at the time of a major engine-room fire			
.4 states that electrical systems should be shut off in accommodation, engine-			

room, pump-room and cargo spaces as applicable in case of fire.			
1.24 Fire precautions and hazards associated with the storage and handling of materials (paints etc.)	**0.25**		
.1 states that a fixed fire-extinguishing system is provided in paint locker of the ship. The system must be tried during fire drill so that it is readily available when need			
.2 states that the shops are permitted an accommodation area up to a maximum space of 0.4 m^2 not provided with fixed installation. Combustible materials should not be sorted in such spaces.			
.3 states that storage of lubricating oil drums are to be in safer space, preferably on main deck of facilitate jettison in case of emergency			
.4 states that additional precautionary measures are to be taken for dangerous cargo stowage as per dangerous cargo code and its E.M.S			
.5 states that engine-room should be kept clean and oil drums containing oil should not be stored in engine-room.			
1.25 Management and control of injured persons (1.5 hours)	**1.5**		
.1 describes the main hazards arising from for the health of personnel as:			
- asphyxiation	-	-	-
- poisoning	-	-	-
- damaged tissues	-	-	-
- burnt skin	-	-	-
- pain	-	-	-
secondary shock			
.2 explains that:			
- asphyxiation may be the result of:	-	-	-
• fires causing oxygen shortage			
• an extinguishing gas replacing air			
- poisoning may be caused by:	-	-	-
• carbon monoxide, which is produced in most fires			
• toxic combustion products of fire			
- damaged tissue may lead to:	-	-	-
• loss of function of parts of the body			
• infection			
• multilation/scarring/disfigurement			
- burnt skin may interfere with its breathing function, which may cause death	-	-	-
- secondary shock is a serious condition, caused by the collection of body fluids in blisters, and must always be suspected except with minor burns	-	-	-
.3 states the importance of first-aid measures being followed up with medical treatment			
.4 describes the firs-aid measures in cases of asphyxiation and poisoning as:			
- removal of victim from danger area: thereafter:-	-	-	-
• if unconscious, placing victim in the recovery position			
• in the absence of breathing, applying cardio-pulmonary resuscitation			
• in the absence of a pulse, applying cardio-pulmonary resuscitation			
.5 demonstrates:			

-	putting a person in the correct recovery position	-		-
-	the application for artificial respiration (mouth to mouth/nose)	-		-
-	the application of cardio-pulmonary resuscitation	-		-
.6 describes the first-aid treatment for burns as:				
-	extended flushing with water or submerging the affected parts in water	-		-
-	injection of morphine if the victim is in great pain	-		-
-	states that bandaging and treatment for shock are equally important but should not be done as a first-aid measure	-		-
1.26	**Procedures for co-ordination with shore-based fire fighters**	**0.25**		
.1 states that shore fire fighters must be informed in case of fire in port. Master and ship staff must take immediate action to control fire as per contingency plan till the shore fire fighters arrive				
.2 states that it is possible to get expert advice from the management representative, owners, classification society and neighboring countries in case of fire at sea. The present day satellite communication system is very prompt in such emergencies				
.3 states that the shore-based help may be available in major fires by helicopter landing of experts from nearest land				
.4 states that stability information and flooding/pumping sequence can be obtained from classification societies through their computer software				
Competence 2: Organize and train fire parties				
2.1 Preparation of contingency plans		0.25		
.1 states that the central control station will be on the bridge				
.2 states that the master will b e in charge				
.3 states that the fire officer/officers will report to the bridge and receive instructions				
.4 lists the information which central control station requires, including:				
-	the time at which the fire alarm was given	-		-
-	the position and nature of the fire	-		-
-	confirmation that fire parties are at their assembly points and that the firefighter's outfits are available	-		-
-	confirmation that the fire main is pressurized	-		-
-	report on initial attempts to extinguish fire using portable extinguishers	-		-
-	report on effect of fire on services, e.g. lighting	-		-
-	report on persons present or trapped in compartments or unaccounted for	-		-
.5 lists information which should be available on the bridge, including:				
-	arrangement drawings, in a convenient size, of ship, engine room and accommodation	-		-
-	details of accesses and escapes from the different zones of the ship	-		-
-	details of fire-extinguishing equipment, both fixed and portable, for the entire shop, including storage position of refills	-		-
-	stability information	-		-
-	details of survival equipment and where it is stored	-		-
-	stowage plans	-		-
-	information on dangerous goods	-		-

.6 lists communication co-ordination methods available, including			
- telephones	-	-	-
- loud hailers	-	-	-
- direct speech, e.g. bridge to machinery control room	-	-	-
- radio telephones, hand-held radios	-	-	-
- messengers	-	-	-
.7 lists methods of damage control and containment of fires, including:			
- bridge-operated closing of watertight doors and release of fire doors to their shut position	-	-	-
- stopping of ventilation fans and closing of dampers on funnel and other places	-	-	-
- closing of all windows and portholes in accommodation, galley and other spaces	-	-	-
- turning ship to give best position relative to wind direction for fighting the fire	-	-	-
- cooling boundary bulkheads	-	-	-
- using fire blankets as necessary	-	-	-
- maintaining fire watch after fire is extinguished.	-	-	-
.8 explains how the stability of the ship is monitored and controlled, due to use of water for fire extinguishing:			
- calculating the change in GM caused by the weight of the extinguishing water and as free surface effect	-	-	-
- arranging pumping or draining of fire-fighting water from affected spaces, including cutting holes in ship's side	-	-	-
- for cargo fires, calculating the effect of having to move cargo to attack a fire	-	-	-
- assessing the effect of any damage which causes spaces to be flooded by seawater	-	-	-
- considering possibilities of moving vessel to shallow water or even allowing it to ground	-	-	-
2.2 Composition and allocation of personnel to fire parties	0.75		
.1 explains the organization of fire parties, including:			
- how each fire party is identified	-	-	-
- how each member of a fire party is identified	-	-	-
- what the safeguards are for keeping in contact with each person and knowing his position	-	-	-
- the duties of each fire party, including:	-	-	-
• the reconnaissance team, equipped with portable fire extinguishers			
• the fire hose team			
• the help, search and first-aid team			
• the technical team for checking lifts, closing fire dampers, controlling ventilation fans and fuel shut-off valves, starting emergency generator and emergency fire pump and for refilling used extinguishers as required and preparing for gas flooding			
2.3 Training of seafarers in fire fighting	**3.5**		
1. states that, after joining a ship, the crew must be given instruction on the emergency procedure in use and trained in the use of its fire appliances and its equipment, paying particular attention to:			

- the location and use of portable fire extinguishers containing:	-	-	-
• water			
• foam			
• powder			
• carbon dioxide			
- the location and use of mobile fire extinguishers containing:	-	-	-
• foam			
• powder			
carbon dioxide			
- the location and use of fixed fire extinguishing appliances, e.g.	-	-	-
• fire hydrants, hoses and nozzles			
• water sprinklers			
• water sprays			
• foam system			
• carbon dioxide system			
- the location and use of firefighter's outfit and in particular:	-	-	-
• learning how to don the protective clothing quickly knowing where the personal equipment is stowed and what it comprises			
• checking and using the approved breathing apparatus			
• checking and using the fireproof life line and being familiar with the signaling codes			
.2 strategies and tactics for control of fires in various parts of the ship states that, for crew training, realistic but safe fire drills should be held in various areas of the ship, including.			
- general functions, covering:	-	-	-
• starting the emergency generator			
• starting the emergency fire and blige pump			
• selecting the appropriate valves for providing water for fire fighting, flooding holds or pumping out bilges			
• identifying the emergency controls and their function			
- improving personal safety by practice	-	-	-
- moving and finding the way in spaces with restricted visibility	-	-	-
- moving through small apertures	-	-	-
- using compressed-air breathing apparatus and the fireproof lifeline in these conditions	-	-	-
- machinery spaces, assuming mock fires, e.g.	-	-	-
• fire on diesel alternator due to fuel-oil spray from fracture fuel injection pipe striking hot exhaust pipe			
• fire in bilge due to fuel oil being ignited by sparks from welding work in the vicinity			
• fire at top of engine room due to lubricating oil leaking from a fractured pipe to the turbocharger bearing and striking the surface of turbocharger			
• fire adjacent to boiler due to blow-back from furnace			
• fire in switchboard caused by loose connection			
• fire in the economizer or boiler uptake due to accumulation of soot			
- accommodation spaces, assuming mock fires, e.g.	-	-	-
• fire in a cabin due to bedclothes catching fire from a fallen			

cigarette			
• fire in crew lounge due to defective electrical connection			
- fire in galley, including:	-	-	-
• fire on top of stove due to spilled cooking fat			
• fire in deep-fat fryer			
- fire in deck container, e.g.	-	-	-
• fire due to defect in integral refrigeration unit			
- fire in cargo spaces, taking into account cargo on board, e.g.	-	-	-
• in holds, 'tween deck or containers			
• involving dangerous goods			
- ventilation control and smoke extractor	-	-	-
- control of fuel and electrical systems	-	-	-
.3 states that the members of fire parties are given training, which includes:			
- instruction in the duties of each fire party to which a crew member may be assigned	-	-	-
- instruction in the duties of each member of a fire party and how these duties of each member of a fire party and how these duties are allocated, e.g. by number of otherwise	-	-	-
- exercises to make each fire party proficient, including first aid	-	-	-
.4 states that crew members who operate a fire patrol system will be trained to ensure that they are familiar with the arrangements of the shop as well as the location and operation of equipment, including:			
- manually operated call points	-	-	-
- fixed fire-detection and alarm systems	-	-	-
- telephones	-	-	-
- portable fire extinguishers and their limitation	-	-	-
- hydrants, hosses and nozzles	-	-	-
.5 demonstrates the ability to carry out the exercises listed in 2.3.1, 2.3.2, 2.3.3, 2.3.4 above			
.6 recharges, repairs and maintains portable fire extinguishers			
2.4 Fire control plans	**0.25**		
.1 states that the fire control plans must be checked periodically to ensure they are legible and up-to-date			
.2 states that the duplicate set of fire control plans or the booklet containing them, which are for the assistance of shore side fire-fighting personnel, are checked to confirm that they are in good condition			
.3 checks that the guide signs to the duplicate plans are intact and distinct			
2.5 Organization of fire and abandon ship drills	**0.75**		
.1 states that drills shall, as far as practicable, be conducted as if there were an actual emergency			
.2 states that every crew member shall participate at least on e abandon ship drill and one fire drill every month			
.3 fire drills:			
- states that fired drill should be planned in such a way that due consideration is given to regular practice in the various emergencies that may occur depending on the type of ship and the cargo	-	-	-
- states that while conduction fire drills the following procedures should be followed:	-	-	-
• reporting to stations and preparing for the duties described in			

muster list			
• starting of a fire pump, using at least the two required jets of water			
• operation and use of fire-extinguishing appliances			
• checking and using firefighter's outfit and other personal rescue equipment			
• testing of relevant communication equipment			
• operation of watertight doors, fire doors, fire dampers and main inlets and outlets of ventilation systems in the drill area			
• checking the necessary arrangements for abandoning the ship			
.4 states that the equipment used during drills shall immediately be brought back to its fully operational condition			
.5 states that any faults and defects discovered during the drills shall be remedied as soon as possible			
.6 abandon ship drills:			
- states that while conducting abandon ship drills the following procedures must be followed:	-	-	-
• abandon ship drill is called by raising particular alarm followed by announcement on the public address or other communication systems. All passengers and crew shall be familiar with this alarm and announcement			
• on hearing alarm, crew shall report to stations and prepare for the duties described in muster list			
• passengers and crew are suitably dressed			
• lifejackets are correctly donned			
• preparation and lowering of at least one lifeboat			
• starting and operating the lifeboat engine			
• launching method of lifeaft is explained			
• a mock search and rescue of a crew member trapped in cabin is carried out			
• instruction in the use of radio life-saving appliances			
- states that different lifeboats shall be lowered at successive drills	-	-	-
- states that rescue boat other than lifeboats shall be launched each month with their assigned crew aboard and manicured in the water	-	-	-
- states that emergency lighting for mustering and abandonment is tested at each abandon ship drill	-	-	-
2.6 Strategies and tactics for control of fires in various parts of the ship	**0.5**		
.1 sates that the fire can occur in the:			
- engine-room	-	-	-
- accommodation	-	-	-
- galley	-	-	-
- storerooms	-	-	-
cargo spaces			
.2 states contingency plans are required to be drawn for every type of emergency on board, particularly for fire and abandon ship:			
- demonstrate use of the integrated approach to contingency planning for shipboard emergencies	-	-	-

- explains how tactics and strategies for control of fires in engine room, accommodation and cargo spaces differ	-	-	-
- states that tactics and strategies for control of engine room fires involves management and fire-fighting techniques of hot oil and exhaust gases	-	-	-
- states that control of accommodation fires may be achieved by confining the fire within the zones bounded by A-60 bulkheads and cutting off ventilation	-	-	-
- states that fighting cargo space fires is complex and involves special training for fighting fires involving bulk, oil, chemical and gas cargoes as well as dangerous cargoes	-	-	-
- states that BC Code, SOLAS Chapter 11-12, IBC and IGC Codes and EMS for Dangerous Cargoes contain essential data for use in setting strategies	-	-	-
states that composition and organization of fire control parties ensure prompt and effective implementation of emergency plans and procedures			
.2 states contingency plans are required to be drawn for every type of emergency on board, particularly for fire and abandon ship:			
- demonstrate use of the integrated approach to contingency planning for shipboard emergencies	-	-	-
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- states that BC Code, SOLAS Chapter 11-12, IBC and IGC Codes and EMS for Dangerous Cargoes contain essential data for use in setting strategies	-	-	-
- states that composition and organization of fire control parties ensure prompt and effective implementation of emergency plans and procedures	-	-	-
Competence 3: Inspect and service fire detection and extinguishing systems and equipment			
3.1 Fire alarms	0.5		
.1 states that for the fire alarms and the actuating switches:			
- a plan should be available which shows their positions	-	-	-
- a schedule should be prepared that shows dates when surveys, inspections, maintenance and testing should be carried out	-	-	-
- a record should be kept of defects found and of repairs carried out	-	-	-
- the manufacture's instruction manuals should be used as a basis for the schedule referred to above, which should include at least:	-	-	-
• inspection for damage or omissions in wiring and equipment			
• cleaning of electrical contacts and switches			

• testing of the system and proving the all equipment operates correctly			
3.2 Fire detection equipment	0.75		
.1 states that a scheme similar to the in 3.1 above should be prepared and operated			
.2 states that additionally the maintenance schedule should include:			
- testing the correct operation of each head of probe, as appropriate for	-	-	-
• smoke (ion) detectors			
• flame detectors (infrared or ultraviolet rays from the flames)			
• heat detectors (thermal contact)			
• rate of change of temperature detector			
• bursting temperature of sprinkler bulb in a sprinkler system			
- cleaning and checking of contacts and other components in the control box and ensuring that connection to the fire alarm system operates correctly	-	-	-
3.3 Fixed fire extinguishing equipment	**1.0**		
.1 states that a scheme similar to the in 3.1 above should be prepared and operated for each type of fixed fire extinguishing equipment			
.2 states that the maintenance schedule for a sprinkler system should also include:			
checking that the water level and air pressure in the pressure vessel are correct and, or not, adjusting as required			
- checking that the sprinkler pump starts if pressure is reduced to the correct level	-	-	-
- checking that all zone and stop valves are workable and are in the correct position for service	-	-	-
- checking that all sprinkler bulbs are unobstructed	-	-	-
.3 states that the maintenance schedule for a carbon dioxide system should also include:			
- testing the level of liquid gas in the cylinders by:	-	-	-
• the isotope method			
• the weighing method			
- checking that the siren that gives warring that gas is about to be released operates correctly	-	-	-
- checking that the gas outlets in the spaces protected are unobstructed	-	-	-
.4 sates that the maintenance schedule for a fixed pressure water spraying system should also include:			
- checking that the nozzle are unobstructed	-	-	-
- checking that the valves operate correctly	-	-	-
.5 states that the maintenance scheduler for a foam system should also include:			
- checking (on tankers) that the deck monitors operate correctly	-	-	-
- checking that for engine-room applications the foam outlets and spreaders are clear and that the pipes are free of corrosion products	-	-	-
3.4 Fire main, hydrants, hoses and nozzles and pumps	**1.0**		
.1 states that a scheme similar to that in 3.1 should be prepared and operated			
.2 describes the inspection and maintenance of the fire main and its associated piping in terms of:			

- testing the system for leaks	-	-	-
- inspecting the pipes for corrosion	-	-	-
- keeping hydrants and coupling lugs movable	-	-	-
- attending to leaks	-	-	-
- having alternative in place when shutting down or removing a part of the system	-	-	-
- inspecting relief valves	-	-	-
- keeping adequate spares of handwheels, spindles, gaskets, coupling lugs, washers and values	-	-	-
.3 describes the inspection and maintenance of fire hoses and nozzles in terms of:			
- pressure-testing hoses	-	-	-
- moving spray nozzles through their operating range	-	-	-
- keeping coupling lugs movable	-	-	-
- checking on washers	-	-	-
keeping adequate spares for hoses, coupling lugs, washers and nozzles			
.4describes the measures that have to be taken in icy conditions to keep the fire main system free of ice as being :			
- shut down the pump and close valves as required	-	-	-
- drain all water from pipes	-	-	-
- keep checking that the system remains empty of water	-	-	-
- put up warning notices on the bridge that the fire main has been drained of water	-	-	-
.5 states that the practice of opening one or more hydrant valves does not prevent the system from becoming frozen in certain conditions			
3.5 Portable and mobile fire extinguishing equipment including appliances	1.0		
.1 states that a scheme similar to that in 3.1 should be prepared and operated			
.2 states that when a portable or mobile fire extinguisher has been discharged it should be prepared for further use as follows:			
- on an extinguisher with a trigger handle, depress the handle to ensure that the cylinder is not pressurized	-	-	-
- remove the top cap, including the cartridge, and then:	-	-	-
• clean the cylinder and inspect for any corrosion if the cylinder is made of steel			
• check when the cylinder is due for a pressure test, which is normally done by the suppliers			
• check that the discharge pipe and nozzles are clear			
• check the operation of the trigger valve to ensure it is fluid-tight and oeprated freely			
• check the oepration and tightness of other valves (if fitted)			
• reassemble the extinguisher, using the correct media and cartridge			
• after the cap has been fitted, fit the safety pin			
- write the date of refilling on a recorded label on the cylinder	-	-	-
- replace the extinguisher in its previous position or put it in store, as required by the chief mate	-	-	-
.3 states that neither a partially discharged extinguisher nor an empty one should be palace in its previous position before being refilled			
3.6 Firefighter's outfits and other personal protective equipment	1.0		

.1 states that a scheme similar to that in 3.1 should be prepare and operated			
.2 states that, in addition, the inspection and maintenance schedule should include checking;			
- that all outfits are in their correct stowage positions	-	-	-
- that the personal equipment is undamaged and complete	-	-	-
that the battery of the electric safety lamp (hand lantern) is fully charged			
- that the breathing apparatus is ready for use	-	-	-
- that the compressed air bottles, including all spares, are kept fully charged	-	-	-
- that, after any use, the breathing apparatus is dismantled to ensure that all parts are clean and all valves are operating correctly	-	-	-
- that the fireproof lifeline is undamaged	-	-	-
3.7 Rescue and life support equipment	**1.5**		
.1 demonstrate the use of rescue equipment:			
- stretcher	-	-	-
- first-aid	-	-	-
- self-contained breathing apparatus	-	-	-
- hand operated rescuscitators-air and oxygen type	-	-	-
- fully automatic resuscitators	-	-	-
- rescue haenss with lifeline and safety hook	-	-	-
- intrinsically safe portable lights	-	-	-
- fire axe	-	-	-
- fire suit	-	-	-
- personal protective gear such as helmet, gloves and boots	-	-	-
.2 demonstrates and states that during search and rescue of injured persons, rescue party should carry additional SCBA and a resuscitator			
.3 demonstrates first aid for burns and bleeding to a casualty			
.4 demonstrates resuscitation			
.5 demonstrates and states that in addition to a line, a guide line may also be rigged as rescue aid			
.6 states that thermal protective aid, life jacket and life buoys are also used as rescue equipment during abandonment of the ship			
3.8 Salvage equipment	0.5		
.1 states, and demonstrates where necessary, the names and describes the working principles and operations of following salvage equipment:			
- fire and salvage tugs	-	-	-
- helicopters	-	-	-
- hand flares, parachute rockets, smoke floats, line throwing appliances, MOB marker, EPIRBs, SARTs, two-way communication	-	-	-
- gas cutting set with oxy-acetylene torches	-	-	-
- collision mats	-	-	-
- signalling flags and morse signalling lamps	-	-	-
- rope ladder with boat hook	-	-	-
- rescue boat	-	-	-
- large capacity salvage pumps and eje3ctor pumps fitted on fire boat and tugs	-	-	-
oxygen analyser and toxic gas analysers for entry into enclosed spaces			
- high-expansion foam system fitted on fire-fighting tugs	-	-	-
- towing gear	-	-	-

3.9 Communication equipment	0.75		
.1 states that communication equipment used for fire fighting is of two types: internal and external communications			
.2 demonstrates internal communications:			
- communication by voice, messenger and loud hailer	-	-	-
- two-way communications with radio hand sets	-	-	-
- portable radios including rescue boats and lifeboat radio equipment	-	-	-
- public address systems	-	-	-
- intercoms and fixed telephone systems	-	-	-
.3 explains use of external communication equipment such as:			
- DSC on VHF, MF and HF	-	-	-
- Inmarsat-A/-C	-	-	-
- all other terrestrial and GMDSS systems	-	-	-
3.10 Requirements for statutory and classification surveys	**1.0**		
.1 states that the statutory requirements for fire prevention, protection, detection and extinction are contained in Chapter 11/2 of SOLAS 74			
.2 states that specialized fire-fighting systems, equipment and procedures while carrying dangerous goods are described in the emergency procedures of the IMDG Code			
.3 states that specialized fire-fighting systems, equipment and procedure of the carriage of fire-prone cargoes in bulk are described in the BC Code			
4. states the specialized fire-fighting systems, equipments and procedures for the carriage of liquid chemicals in bulk are described in the IBC/BCH Codes			
.5 states that specialized fire-fighting systems, equipment and procedure for the carriage of liquefied gases in bulk are described in the IGC/GC Code			
.6 states the fire protection bulkheads such as A-60, B-30 and C/F class materials, fire proof materials and low flame spread materials are tested as per fire test procedure code			
.7 states that administrations are required to follow the minimum IMO requirements and shall also make national rules.			
.8 states that classification societies' rules are based on IMO requirements and their own particular requirements			
states that SOLAS 74 requirements are under constant review and updating and changes include:			
- smoke detection and extraction system for passenger spaces	-	-	-
- helicopter deck	-	-	-
- fixed installation for paint lockers	-	-	-
- fire-fighting arrangement for ro-ro spaces	-	-	-
- jacketing of fuel injection pipe for main and auxiliary engines	-	-	-
- definition of control station	-	-	-
- inerting ventilation and gas measurement for double hull space of oil tankers	-	-	-
special requirements for ships carrying dangerous goods, location and separations of spaces			
Competence 4: Investigate and compile reports on incidents involving fire			
4.1 Fire investigation and reporting	2.0		
.1 states that the investigation into the fire should include recording the following:			

- how the fire was discovered	-	-	-
- the time at which the fire alarm was given	-	-	-
- how the alarm was given	-	-	-
- the time at which the master or other officer was informed	-	-	-
- the position and nature of the fire	-	-	-
- who was first on the scene	-	-	-
- what actions were taken for the initial attempt to extinguish the fire how many firefighter's outfits with compressed air operated breathing apparatus (CABA) were used	-	-	-
- what appliances were used, both portable and fixed	-	-	-
- what manpower was used	-	-	-
- at what time the fire was extinguished	-	-	-
- the number of casualties, with details of those injured and the nature of injuries	-	-	-
- what damage was caused, including any the structure and fittings of the shop	-	-	-
- an estimate of what proportion of the damage was caused by the fire extinguishing media, e.g. water or foam, as compared to that directly caused by the fire	-	-	-
- for how long after the fire was extinguished was a fire watch maintained	-	-	-
- to what extent the shop or any part of it e.g. water or foam, as compared to that directly caused by the fire	-	-	-
- for how long after the fire was extinguished was a fire watch maintained	-	-	-
- to what extent the shop or any part of, e.g. the engine room, was immobilized because of the fire	-	-	-
- an analysis of the fire, the materials which were burning, the known or probable source of ignition and the cause	-	-	-
- conclusions on the causes of the fire and recommendations for avoiding a recurrence	-	-	-
.2 states that the report on the investigation will include these details of the fire-fighting procedures:			
- the occurrence and a timetable of the fire	-	-	-
- the actions taken and the time of each action	-	-	-
- the facts concerning the fire, including its site, materials and ignition	-	-	-
- the fire-extinguishing appliances required for fighting the fire and the numbers of each type used	-	-	-
- the number of crew and shore firemen (if appropriate) engaged in fighting the fire	-	-	-
- the number of firefighter's outfits and CABA used	-	-	-
- the damage caused by the fire	-	-	-
- the damage caused by the fire-extinguishing media	-	-	-
- the extent to which the ship or its services were immobilized by the fire	-	-	-
.3 state that the report should also contain conclusions from the facts established, including:			
- an analysis and discussion of the facts	-	-	-

- the conclusions reached from this analysis and discussion	-	-	-
- recommendations on the actions required to avoid a recurrence	-	-	-
- recommendations, if any, to improve fire prevention and fire-fighting procedures.	-	-	-
4.2 Trainee's experience of fires on ships	1.0		
.1 describes details of fires experienced:			
- their caused	-	-	-
- the fire-fighting procedures	-	-	-
- the results	-	-	-
4.3 Documented reports of fires on ships and lessons learned	**2.0**		
.1 describes, after being given the particulars of a ship and its cargo and how a fire was discovered, the initial action which has to be taken			
.2 describes, after being given the results of that action, what further measures, if any, are required			
.3 describes, after being given the particulars of the whole incident, how his actions compared with those actually taken on board the shop concerned.			

6. Entry Standard, Selection Criteria of Students:

A candidate must have SSC or higher certificate, with science back ground.
Age: More than 16 years.
Health: Good health condition to be certified by a qualified doctor

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:

Qualified lecturer / instructor of Nautical and Engineering studies along with fire instructors, having the certificate of Advanced Fire Fighting meet the requirement of the course.

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:

Normal classroom facilities with an overhead projector must be available. VCR. Television and instructional Video Tapes are highly recommended. The demonstration room/laboratory will be required to contain the following items/models of items cross-sectioned for inspection or poster size drawings/photographs of the same so that the main components are visible:

1. Diesel and Steam Engines.
II. Boilers
III. Reciprocation air compressors and their safety valves.
IV. Various types of pumps.
V. Plate and tubular heat exchanger
VI. Valves: gate, Globe, butterfly, spring loaded, screw down and non-return type.

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

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

1. Propulsion System (PS): Nazrul Islam, Instructor.
2. General Ship Knowledge (GSK): Mr. Didarul Alam.
3. Deck Familiarization: Mr. Ataur Rahman, CNI.
4. English (ENG): Visiting Lecturer: Syeda Nafisa Alam.
5. Work Shop (WS): Md. Salauddin Ahmed

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

Theory- 20.75 hrs.
Practical- 7.75 hrs.
Assessment- 3.0 hrs.

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

The training is organized so that, by demonstration, trainees are able to show that they meet the requirements of below mentioned column 2 of Table A-VI/3 in accordance with the methods for demonstrating competence shown in column 3 of that table and the criteria for evaluating competence in column 4, by short answer, multiple choice, fill in the blanks and true/false type questions written test and by practical assessment, direct observation, oral questioning, simulation in practical test.

In case of failure, the student will be readmitted to the next batch of student.

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: 2016.02.045.0000675 DoS Reg. No: 2016.02.045.0018501

Course Completion Certificate

ADVANCED FIRE FIGHTING

This is to certify that, Mr. MD. MAHMUDUL ISLAM Son of Mr. MD. NURUL ISLAM, Date & Place of Birth 09-09-1996 & COMILLA, C.D.C.No. T/31681 has successfully completed course on **ADVANCED FIRE FIGHTING** conducted from **09-11-2016** to **15-11-2016** at the National Maritime Institute, Chittagong, Bangladesh

Issue Date: 19-11-2016 and Expiry Date 19-11-2021

Has been found duly qualified and satisfied the condition in accordance with the provisions of Regulation VI/3 of Annex to the international convention on standards of Training, certification and watch keeping for seafarers(STCW), 1978 as amended.

CERTIFIED
TRAINING INSTITUTE

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