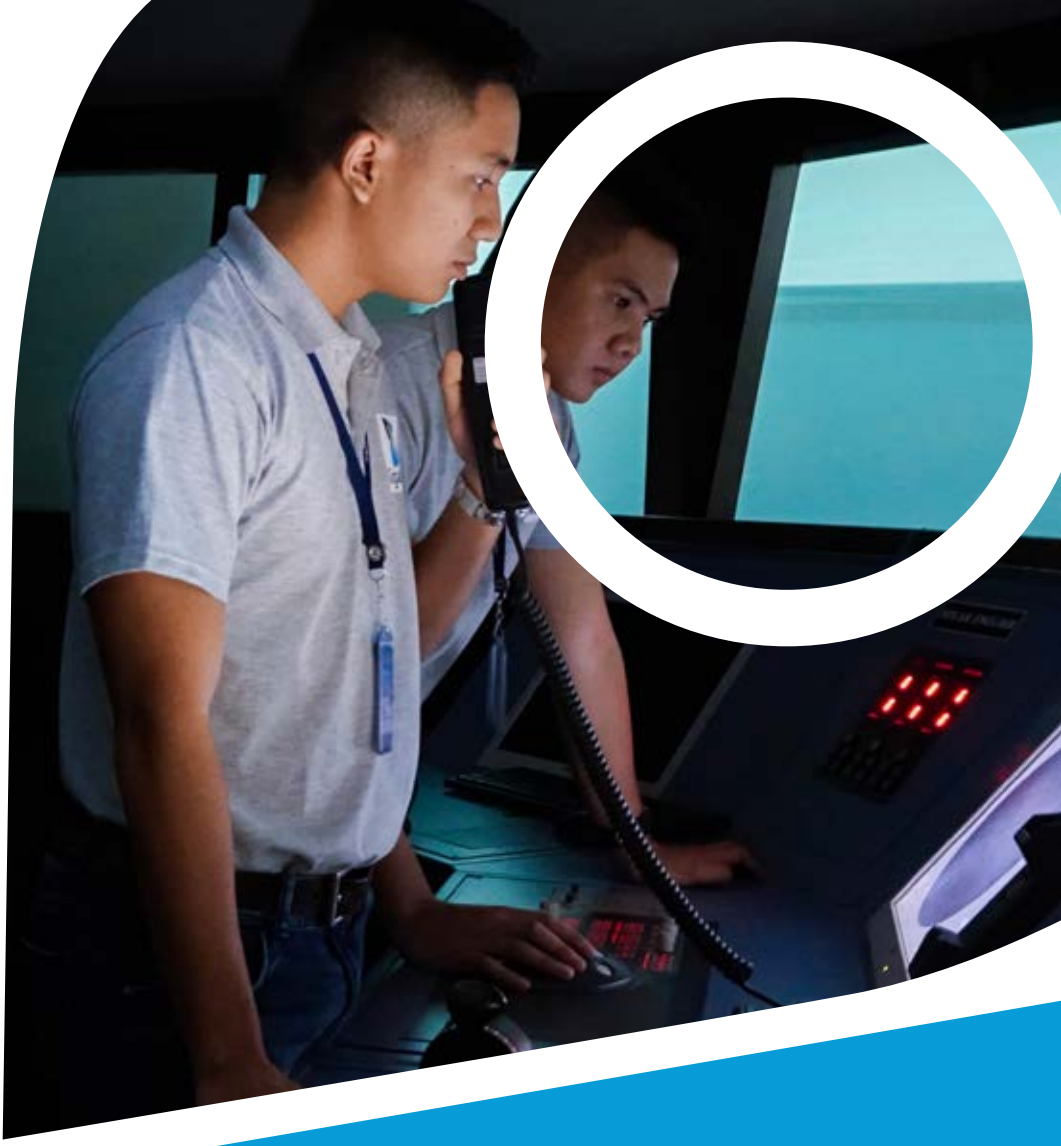


GIGAMARE TRAINING COURSE CATALOGUE

GigaMare

FOREWORD

Hernane Balinas

General Manager,
Sales & Business Development

At GigaMare our mission is to support our customers in achieving their business goals by providing innovative, high quality and customized solutions focusing on safe and efficient operations.

GigaMare's way of working is to co-create solutions with our customers by analysing their business challenges and how improved human performance can help to address them. We use performance gap analysis as a platform in establishing the learning objectives. Training content and methods are designed and developed to reach the specified objectives. Training solutions are then implemented, closely monitored and evaluated with our customers to ensure that the return of training investment is achieved.

With our infrastructure, competence, and people, rest assured that you have a reliable partner. We strive to set the standards and deliver our services better than anyone else in the industry.

ENGINEERING COURSES

WÄRTSILÄ PRODUCT COURSES

ELECTRICAL AND AUTOMATION COURSES

EFFICIENCY AND ENVIRONMENTAL COURSES

PLANNED MAINTENANCE SYSTEM COURSE

DECK AND NAVIGATION COURSES

RESOURCE MANAGEMENT COURSES

TANKER/CARGO MANAGEMENT COURSES

ASSESSMENT SERVICES

CADET PROGRAMS

“Our goal is to address our client’s business goals and challenges through quality training solutions to support their development of a competent workforce. And a vital part of this goal is GigaMare’s ability to tailor make courses to fit our client’s specific requirements.

Imagine being able to select and combine specific training modules allowing ultimate customization and development of a learning portfolio for your workforce’s exact needs.

If you need it, we’ll help you design it”

Training that makes a difference!

TRAINING COURSES
Each course is arranged upon request with a minimum of six (6) participants.

THE COURSE FEE INCLUDES
- Coffee
- Lunch
- Daily transportation
- Personal protective equipment

LODGING/TRANSPORTATION
GigaMare arranges complete accommodation and transportation packages for our customers upon request.

REGISTRATION CONFIRMATION
Registration is confirmed when purchase order is signed and order confirmation is received.

COURSE CANCELLATION POLICY

- With reference to training services provided within GigaMare's premises, no cancellation fee will be charged if notification of non-attendance is received fourteen (14) or more calendar days prior to starting date of the course.

SAFETY POLICY

- It is requested that each participant be mindful of GigaMare's safety regulations. All participants are provided with complete safety equipment through the course duration.

ENGINEERING HANDS-ON EQUIPMENT

- Our engineering hands-on equipment includes: complete cut-away model and engine parts of Wärtsilä ZA40S, Wärtsilä 46, Wärtsilä 200, Wärtsilä Vasa32 and power plant auxiliaries.

- Other hands-on facilities include RT-flex Engine Simulator, Alfa Laval Purifiers, Fuel Pump, Governor, Electrical Training Modules, High Voltage Switch Gear, Hydraulics, Pneumatics, Refrigeration, Turbocharger, ODME, Controllable Pitch Propeller, and NMF Crane Simulator, Engine Room Simulator and Steam Turbine Propulsion Plant Simulator.

NAUTICAL BUILDING

- 5 bridge simulators equipped with ECDIS, ARPA, AIS, SAR, MOB operation, tugboat operation, collision and grounding avoidance, GMDSS radio communication simulator and other exercises.
- 6 work stations for Maris and Consilium ECDIS
- Cargo handling simulators VLCC, product carrier chemical tanker, FSPO (LNG, LPG, Steam Turbine Simulator).

MOORING STATION FACILITY

- Our mooring station hands-on equipment includes: 1:1 forecastle ship deck, an anchor windlass, mooring winches, roller fairleads, guide rollers, guide pulleys with three rollers, a chain locker with bitter end lock, an anchor chain and chain stopper, a store hatch cover and watertight deck doors.

CUSTOMIZED COURSES

GigaMare provides customized/tailor-made courses to customers on SAFETY, ELECTRICAL, ENGINEERING, NAVIGATION AND CARGO HANDLING.


GigaMare

ENGINEERING COURSES

- 2-STROKE ELECTRONIC CONTROLLED ENGINES
- 2-STROKE ENGINE
- 4-STROKE DUAL FUEL ENGINES
- 4-STOKE MEDIUM SPEED ENGINES
- AUXILIARY EQUIPMENT
- CARGO PUMP OPERATION, MAINTENANCE AND TROUBLESHOOTING
- CRANE TROUBLESHOOTING
- ENGINE COMPONENT MAINTENANCE AND RECONDITIONING
- ENGINE MECHANICS
- ENGINE PERFORMANCE
- ENGINE SAFETY
- FITTER TRAINING
- GOVERNOR TRAINING
- HYDRAULICS FOR MARINE APPLICATIONS
- LNG STEAM TURBINE PROPULSION PLANT
- MARINE PLANT OPERATION
- MARINE REFRIGERATION AND AIR-CONDITIONING
- MARINE REFRIGERATION WITH EPA CERTIFICATION
- OIL MIST DETECTOR TROUBLESHOOTING AND MAINTENANCE
- PNEUMATICS FOR MARINE APPLICATIONS
- PRECISION MEASUREMENTS OF ENGINE COMPONENTS
- PUMPS OPERATION AND MAINTENANCE
- SEPARATOR TRAINING
- TURBO CHARGER
- WELDING TRAINING

2-STROKE ELECTRONIC CONTROLLED ENGINES

COURSE OBJECTIVE

After completing the course, the participants should be familiar with the main components of an electronic engine (including mechanical and hydraulic-pneumatics). They should understand the common rail and bus systems, operate the control system, and diagnose common operational faults.

CONTENT OF THE COURSE

- Philosophy of EEC technology
- EEC specific mechanical features
- EEC hydraulic and pneumatics
- EEC control system
- EEC cylinder lubrication system
- EEC electrical diagram & control system operation
- Simulator familiarization and practical exercises
- HW and SW of the simulator
- Service aspects, field experience
- Hands-on EEC fuel oil pump
- EEC advantages and conclusions

PREREQUISITES

The participants (Marine, Mechanical, or Electrical engineer), should have good knowledge of diesel engine principles as well as sufficient operational experience of the diesel engines.

TARGET GROUPS

Shipboard Management Level/ Operational Level Engine Officers, and Electro Technical Officers (who will be engaged in the operation and maintenance of the electronic engines).

DURATION: 5 working days

2-STROKE ENGINE

COURSE OBJECTIVE

The objective of the course is to enable the trainees to maintain the engine in a safer manner and to be able to contribute more effectively to the operation of the machinery. The trainees will learn the basics of evaluating engine operation parameters and maintenance planning.

CONTENT OF THE COURSE

- 2-Stroke engine component design and functions
- Starting air system
- Fuel injection system
- Engine cooling system arrangements
- Engine instrumentation & controls system
- Start stop operation
- 2-Stroke engine performance evaluation
- Maintenance routines and procedures
- Troubleshooting exercises
- Safety procedures during operation and maintenance

PREREQUISITES

The trainees should have basic knowledge of diesel engine principles as well as operational experience on engine room systems and components.

TARGET GROUPS

Management Level Engine Officers, Operational Level Engine Officers

DURATION: 5 working days

4-STROKE DUAL FUEL ENGINES

COURSE OBJECTIVE

After completing the training, the trainees should be able to evaluate, plan, operate and maintain the 4-stroke dual fuel engine safely, which will contribute to the overall efficiency of the machinery.

CONTENT OF THE COURSE

- Gas properties, behavior, and safety
- Engine design and function of 4-Stroke dual fuel engine
- Engine instrumentation of the 4-Stroke dual fuel engine
- Start, stop, and operation of the 4-Stroke dual fuel engine
- Engine maintenance schedule
- Fuel injection equipment, gas engines
- Function of built-on gas engine systems dual fuel engines

PREREQUISITES

The trainees should have basic knowledge of engine principles and operational experience on the engines.

TARGET GROUPS

Management / Operational Level Engineers and Ratings

DURATION: 5 working days

4-STROKE MEDIUM SPEED ENGINES

COURSE OBJECTIVE

Enable the trainees to maintain the engine in a safe manner, and to be able to contribute more effectively to the operation of the machinery. The trainees will learn evaluating engine operation parameters and maintenance planning.

CONTENT OF THE COURSE

- Engine design and function
- Engine instrumentation
- Start, stop and operation
- Engine maintenance schedule
- Fuel injection equipment
- Function of built-on engine systems

PREREQUISITES

The participants of this training should have basic knowledge of the auxiliary engines, as well as some operational experience.

TARGET GROUPS

Management / Operational Level Engineers and Ratings

DURATION: 5 working days

AUXILIARY EQUIPMENT

COURSE OBJECTIVE

After completing this training, the participants will be familiar with various auxiliaries found in the ship and power plant's engine room. They will carry out maintenance and perform trouble shooting.

CONTENT OF THE COURSE

- Auxiliary equipment design and function of auxiliaries (i.e.diesel generators, pumps, heat exchangers, fresh water generator, fuel booster unit)
- Principles of operation
- Operating parameters
- Electrical / mechanical fault finding and trouble shooting
- Hands-on training diesel generator, fuel booster unit, pumps, heat exchangers
- Hands-on training on engine simulator

PREREQUISITES

The trainees should have attended basic engine room training and practical marine electricity.

TARGET GROUPS

Marine Engineering Staff, Power Plant Management, and Middle Management Personnel

DURATION: 5 working days

CARGO PUMP OPERATION, MAINTENANCE, AND TROUBLESHOOTING

COURSE OBJECTIVE

This course aims to familiarize the trainees on cargo pumping systems, and ensure the participants will be able to safely operate the system. They should be able to carry out routine maintenance and troubleshoot whenever required.

CONTENT OF THE COURSE

- Hydraulics pumping system concept
- Hydraulics system components
- Open and closed circuits
- Axial piston hydraulic pumps
- Using "FRAMO" circuit and pumping system
- Hydraulic system properties
- Operation and troubleshooting of speed control valves
- Cargo pump design and construction
- Cargo pump operation, stripping and performance evaluation
- Purging routines and analysis of results
- Cargo pump performance curves
- Use of portable pump in emergency and precautions
- Maintenance routines
- Hands on dismantling / reassembly of FRAMO cargo pump and flow control valve
- Common operation problems, causes and solutions
- Best practices on operation, maintenance and troubleshooting

PREREQUISITES

It is desirable that the trainee has a basic knowledge of the ship's cargo pump systems.

TARGET GROUPS

Deck Officers, Engineers and Electro Technical Officers

DURATION: 3 working days

CRANE TROUBLESHOOTING

COURSE OBJECTIVE

At the end of the course, the participants will be able to understand crane operation and its safety systems. They will read and interpret electrical control circuit, as well as power and hydraulic circuits. The course includes systematic and scientific troubleshooting for any electro-hydraulic cranes, including any PLC operated cranes.

CONTENT OF THE COURSE

- Principle of crane operation
- Basic principles of a hydraulic system in crane systems
- Hydrostatic principles and laws
- Hydraulic circuits and symbols and hydraulic components
- Electrical systems of a hydraulic operated cranes
- Electrical control components and PLC system
- Basic circuits applied in crane operation and crane electronics
- Dedicated controllers and HMI for crane operation
- Electronic instruments for safe operation
- Troubleshooting hydraulic problem/ problems in electrical system
- Troubleshooting PLC related problems
- Troubleshooting digital and analog instruments/techniques

PREREQUISITES

The trainees should have background on theoretical education of basic electrical systems and hydraulic system.

TARGET GROUPS

Marine Engineers, Electricians, and Electrical Engineers on board vessel with electro-hydraulic cranes

DURATION: 5 working days

ENGINE COMPONENT MAINTENANCE AND RECONDITIONING

COURSE OBJECTIVE

After completing this training, the participants should be able to take proper and precise measurements on the liner clearances, set up honing equipment, hone the liner safely and do proper reporting.

CONTENT OF THE COURSE

- Precision measurement- using company's reporting template
- Component condition evaluation/ wear limits
- Setting up the honing equipment
- Chris-Marine cylinder liner honing & deglazing machine
- Honing & deglazing procedures
- Chris-Marine valve grinding machine
- Chris-Marine working rig
- Hands On/ Practical

PREREQUISITES

The trainee should be familiar with the safety procedures when working in the engine room/ workshop.

TARGET GROUPS

Marine engineering personnel, Mechanics and Fitters (on engine component maintenance and reconditioning)

DURATION: 2 working days

ENGINE MECHANICS

COURSE OBJECTIVE

After completing the training, the personnel should be familiar with maintenance procedures of the engine. The personnel should be familiar with fundamental safety aspects, tools, and equipment. They will assess, evaluate, disassemble, recondition, calibrate and assemble engine components.

CONTENT OF THE COURSE

- Design and function of an engine
- Safety aspects before performing maintenance work
- Use of special tools (hydraulics jacks and tools)
- Inspection and assessment of the main components
- Hands-on exercises:
  - Inspection on cylinder head, piston, main bearing, etc.
  - Proper procedure of dis-assembly and assembly of above main components.
  - The fuel Injection system design & functions, hands-on pump components
  - Disassembly, assembly, and calibration of fuel pumps
  - Disassembly, assembly, and calibration of the fuel injector
  - Observing proper torque, proper use of tools, safety procedures, procedures as per company SMS
- Final assessment

PREREQUISITES

It is desirable that the trainees should have a basic knowledge on engine operation and maintenance.

TARGET GROUPS

Personnel in-charged in the maintenance of engines

DURATION: 5 working days

ENGINE PERFORMANCE

COURSE OBJECTIVE

After completing the training, the participants should be able to operate and maintain the engine in a more efficient way. Respond correctly, by means of observing and analysing the operating data and other given parameters, including the output and ambient conditions.

CONTENT OF THE COURSE

- Air cooler operation
- Turbocharger operation
- Engine power estimation
- Correction of performance parameters, specific fuel oil calculation
- Cylinder liner/piston rings condition analysis
- Fuel & lube oil management
- Engine simulation exercises

PREREQUISITES

The trainees (either Marine or Mechanical engineers), should have a good knowledge of diesel engine principles together with operational experience of diesel engine.

TARGET GROUPS

Senior operational level engineers, Management level engineers

DURATION: 5 working days

ENGINE SAFETY

COURSE OBJECTIVE
After this training course, the trainees should be able to operate their marine power plant in a safe and efficient manner. The trainees should be familiar with all safety devices, including their functions and be able to maintain the same.

CONTENT OF THE COURSE
- Identifying the hazards, hazardous situations or events
- Environmental hazards
- Welding precautions
- Safety aspects before performance of maintenance works
- Safety procedures regarding start stop operation
- Safety devices installed in diesel engine
- Safety devices maintenance
- Hands-on/practical exercises on safety devices

PREREQUISITES
The trainees (either Marine or Mechanical engineers), should have a good knowledge of diesel engine principles together with sufficient operational experience on the diesel engines.

TARGET GROUPS
Operational and Management Level Engineers

DURATION: 5 working days

FITTER TRAINING

COURSE OBJECTIVE

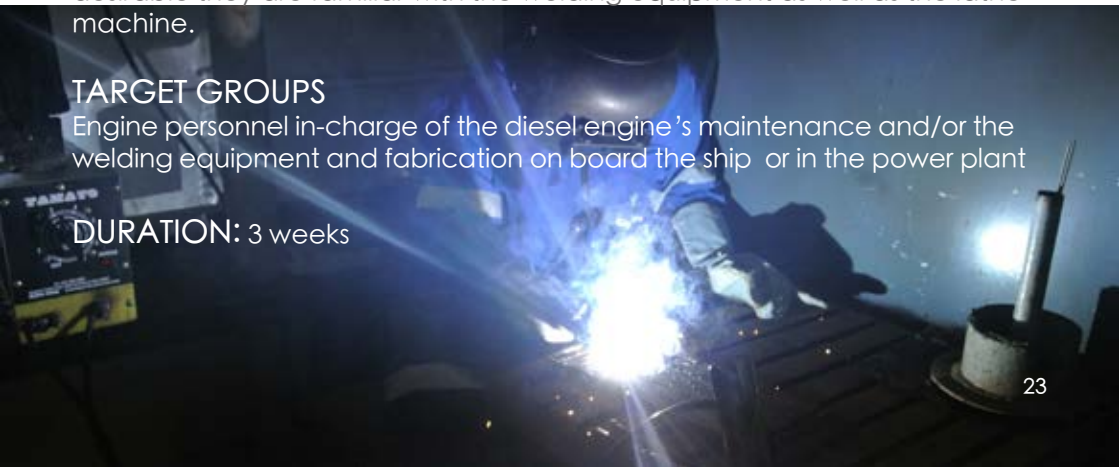
After completing this training, the personnel should be familiar with the procedures when performing maintenance on diesel engine. The personnel should be familiar with fundamental safety aspects, tools and equipment. The course includes assessment, evaluation, disassembly, reconditioning, calibration, and assembly of engine components. Participants will perform arc welding and lathe machine operations.

CONTENT OF THE COURSE

- Introduction to the design and function of a 4-Stroke cycle engine
- Safety aspects before performing maintenance works on an engine
- Familiarization with special tools (hydraulics jacks and tools)
- Familiarization, inspection, and assessment with the engine' s main components
- Hands-on inspection on cylinder head, piston, main bearing etc.
- Proper procedure of dis-assembly and assembly of above main components
- The fuel injection system design & functions, hands-on pump components
- Disassembly, assembly, and calibration of fuel pumps
- Disassembly, assembly, and calibration of the fuel injector
- Observing proper torque, proper use of tools, safety procedures, procedures as per company SMS
- Welding (arc, gas)
- Lathe machine operations
- Final assessment

PREREQUISITES

The participants in this course should have sufficient experience on the operation and maintenance of diesel engines as well as its associated systems. It is desirable they are familiar with the welding equipment as well as the lathe machine.



TARGET GROUPS

Engine personnel in-charge of the diesel engine's maintenance and/or the welding equipment and fabrication on board the ship or in the power plant

DURATION: 3 weeks

GOVERNOR TRAINING

COURSE OBJECTIVE

Upon completion of the course, the participants should be familiar with the design features, operation conditions, performance and fault diagnosis of the governor installed on the engine

CONTENT OF THE COURSE

- Governor design and function
- System and component specifications
- Governing fundamentals
- Principle of operation
- Electric governor principle
- Engine test procedure
- Troubleshooting and repair
- Replacement parts
- Hands-on instructions

PREREQUISITES

The participants preferably hold a degree in engineering, together with sufficient operational experience on the engines.

TARGET GROUPS

Marine and power plant personnel (who will be responsible in the operation and maintenance of diesel engines)

DURATION: 2 working days

HYDRAULICS FOR MARINE APPLICATIONS

COURSE OBJECTIVE

After completing this training, the participants should be familiar with the fundamental concepts of hydraulics (in relation to system on board ships). The training will allow them to identify symbols as well as trace, analyze, and construct circuit diagrams. They will troubleshoot hydraulics system as well.

CONTENT OF THE COURSE

- Hydraulics concept
- Fluid power laws and unit of measure
- Fluid power components
- Designing hydraulic circuits
- Troubleshooting hydraulic circuits
- Maintenance of hydraulic systems

PREREQUISITES

It is desirable that the trainees should have basic knowledge on engineering fundamentals.

TARGET GROUPS

Marine Engineering Personnel, Electricians, and Cadets on board ships

DURATION: 5 working days

LNG STEAM TURBINE PROPULSION PLANT

COURSE OBJECTIVE

On completing the course, the trainees are expected to enhance knowledge and skills applicable for work, hence they will need minimal supervision during normal operation of the LNG steam system and boiler plant.

CONTENT OF THE COURSE

- Steam properties
- Thermodynamics of steam
- Steam heating systems
- Boilers, burner units and boiler accessories
- Condensate and feed water systems
- Main turbine and propulsion systems
- LNG steam boiler plant auxiliaries
- Boiler water quality and treatment
- LNG steam boiler plant operation (dual-fuel)
- Mandatory requirements
- Steam and boiler plant simulator exercises

PREREQUISITES

The trainees should have basic knowledge on thermodynamics and practical experience with steam systems.

TARGET GROUPS

Management Level Engine Officers, Operational Level Engine Officers

DURATION: 10 working days

MARINE PLANT OPERATION

COURSE OBJECTIVE

The training focuses on the operational procedures and parameters of the main and auxiliary machineries. The course aims to reduce down time and operate the systems efficiently.

CONTENT OF THE COURSE

- Engine room systems
- Operation of main and auxiliary machinery and associated control systems
- Operation of alternators, generators and control system
- Environmental and pollution-prevention requirements
- Company checklists, procedures, log books and other record keeping requirements
- Engine simulation exercises

PREREQUISITES

The trainees should have a basic knowledge of the shipboard power plant operations and practical experience gained in a shipboard engine room.

TARGET GROUPS

Shipboard Engineering Personnel (watch keeping engineers and all other professionals with responsibilities related to the daily operation of shipboard power plants)

DURATION: 5 working days

MARINE REFRIGERATION AND AIR CONDITIONING

COURSE OBJECTIVE

The course will enable the trainees to understand the basic theories of heat transfer, main components of refrigeration systems as well as the cooling arrangements in provision rooms and cargo spaces. The course discusses operation and instrument principles, and includes practical instructions on how to measure and perform different maintenance and overhaul procedures. Special focus involves economical aspects of unit operation and utilization, for example:

- safe operation
- unit efficiency
- maintenance procedure

CONTENT OF THE COURSE

- Principles of refrigeration
- Main refrigeration system components
- Cooling arrangements
- Instrumentation and controls
- Air conditioning systems
- Safety procedures
- Maintenance
- Troubleshooting
- Hands-on training

PREREQUISITES

The trainees should have a basic knowledge of refrigeration principles, together with some operational experience of refrigeration systems.

TARGET GROUPS

Operational / Management Level Marine Engineering Personnel

DURATION: 5 working days

MARINE REFRIGERATION WITH EPA CERTIFICATION

COURSE OBJECTIVE

Upon completing this course, the participants should be able to understand the theories of heat transfer, main components of refrigeration systems and cooling arrangements in provision rooms and cargo spaces.

CONTENT OF THE COURSE

- Refrigeration principles
- Main refrigeration system components
- Operation of refrigerant systems
- Cooling arrangements
- Instrumentation & controls
- Air conditioning systems
- Maitenance
- Troubleshooting
- Safety procedures
- EPA certification requirements

PREREQUISITES

The trainees should have knowledge of refrigeration principles.

TARGET GROUPS

Personnel in-charge of the operation and maintenance of refrigeration and air-conditioning equipment

DURATION: 6 working days

OIL MIST DETECTOR TROUBLESHOOTING AND MAINTENANCE

COURSE OBJECTIVE

The expected outcome of this course is for the participants to be familiar on the operation, troubleshooting, and maintenance of oil mist detector on board ships. The trainees should be able to understand the catastrophic consequences of improper maintenance and failure of the oil mist detector. The course is specific for visatron oil mist detectors made by schaller automation industries.

CONTENT OF THE COURSE

- Theoretical aspects and functionality of schaller oil mist detection system
- Hazards of oil mist detector malfunction and improper operation
- Operational system of the oil mist detector
- Periodic maintenance procedures of oil mist detectors
- Troubleshooting and upgrading of oil mist detectors

TARGET GROUPS

Operational/ Management Level Engineers and Electro Technical Officers

DURATION: 3 working days

PNEUMATICS FOR MARINE APPLICATIONS

COURSE OBJECTIVE

After attending this training, the participants should be familiar with concepts of pneumatics in relation to systems on board ships. They should be able to trace, analyze and construct circuit diagrams and logically troubleshoot pneumatic systems.

CONTENT OF THE COURSE

- Pneumatics concept
- Fluid power laws and unit of measure
- Fluid power components
- Designing pneumatic circuits
- Troubleshooting pneumatics circuits
- Maintenance of pneumatics systems

PREREQUISITES

It is desirable that the trainees should have basic knowledge on engineering fundamentals.

TARGET GROUPS

Marine Engineering Personnel, Electricians and Cadets on board ships

DURATION: 5 working days

PRECISION MEASUREMENT OF ENGINE COMPONENTS

COURSE OBJECTIVE

Upon completion of the training, participants should be able to calibrate and demonstrate proper handling of precision instruments. They are expected to read accurately up to 0.01mm measurements and evaluate results.

CONTENT OF THE COURSE

- Principles of measurements
- Conversion exercises
- Caliper, outside micrometer, inside micrometer, depth micrometer, dial boregauge
- Calibration exercises
- Proper use/installation exercises
- Reading and test exercises
- Transferring actual measurement
- Interpreting measurement results
- Component completion evaluation and taking appropriate action

PREREQUISITES

Preferably, participants are personnel with some experience in the maintenance of diesel engines.

TARGET GROUPS

Marine Superintendents, Marine Engineers, Ratings and Power Plant Personnel (who will be engaged in the operation and maintenance of engines)

DURATION: 3 working days

PUMPS OPERATION AND MAINTENANCE

COURSE OBJECTIVE

After completing this course, the trainee should be able to troubleshoot failed pumps, prevent recurrence of failure, and carry out preventative maintenance of pumps. The course promotes optimum operation of pumps.

CONTENT OF THE COURSE

- Various types of pumps
- Pumping operations
- Preventive maintenance
- Hands on training

PREREQUISITES

The trainees (either marine or mechanical engineers), should have basic knowledge of industrial pumps (i.e.different types, design and function) as well as practical experience on the field.

TARGET GROUPS

Engine Repairman / Mechanics and Operational Level Engineers Supervisors

DURATION: 4 working days

SEPARATOR TRAINING

COURSE OBJECTIVE

After successfully completing this training, the participants shall be able to operate the separator and perform appropriate maintenance procedures.

CONTENT OF THE COURSE

- Principle and terminology
- Separation principles
- Design and function
- Preventive maintenance procedures
- Programming of the controller
- Hands-on assembly/disassembly of the separator unit
- Troubleshooting exercises
- On-site training is recommended for other brands.

PREREQUISITES

The trainees should be familiar with engine room system.

TARGET GROUPS

Marine and Power Plant Personnel (with watch- keeping, operational and maintenance duties)

DURATION: 4 working days

TURBO CHARGER

COURSE OBJECTIVE

After completing the training, participants should be able to safely and properly carry out preventive maintenance procedures on the turbocharger.

CONTENT OF THE COURSE

- Turbochargers and engine power
- Principles of turbocharger operation
- The main difference between ABB's VTR and TPL turbochargers
- Identification and function of main components
- Maintenance schedule
- Wet and dry cleaning of turbochargers
- Hands-on training on VTR turbocharger
- Laboratory

PREREQUISITES

The trainees should have basic knowledge of engine principles including some operational experience on the engines.

TARGET GROUPS

Marine and Power Plant Personnel (who will be responsible in the operation and maintenance of diesel engines)

DURATION: 3 working days

WELDING TRAINING

COURSE OBJECTIVE

Upon completion of the course, the participants are expected to gain knowledge and skills to:

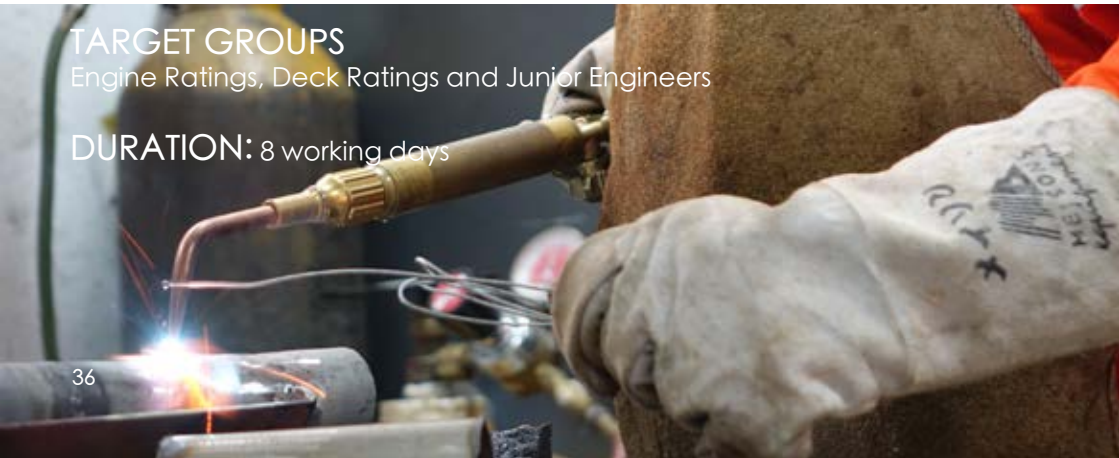
- Perform SMAW in 1F-4F and 2G positions
- Perform Gas welding such as; Fillet Weld
- T-Joint (horizontal and vertical position)
- Corner Joint (flat and horizontal)
- Butt Weld (flat and horizontal) positions
- Lap joint (flat and edge joint position)
- Pipe Welding; Flat position (1G rolling) and all positions

CONTENT OF THE COURSE

- Shop safety program
- Process fundamentals
- Welding terminology
- Welding and cutting
- Arc welding machine setting, adjustment, operation and maintenance
- Oxy-acetylene equipment setting and shutting down
- Filler metals; selection and identification
- Causes and cures of common welding defects
- Types of joints and weld
- Essential to obtain quality welds
- Welding position (plate and pipe)
- Braze and braze welding

PREREQUISITES

The trainee should be familiar with safety procedures on board ship.



TARGET GROUPS

Engine Ratings, Deck Ratings and Junior Engineers

DURATION: 8 working days

WÄRTSILÄ PRODUCT COURSES

- ENGINE OPERATION (BASIC)
- ENGINE OPERATION/PRACTICAL (ADVANCED)
- ENGINE PRACTICAL
- ENGINE RT-FLEX OPERATION AND CONTROL SYSTEM (ADVANCED)
- ENGINE RTA (BASIC)
- WÄRTSILÄ ENGINE CONTROL SYSTEM (WECS) 2000
- WÄRTSILÄ RT-FLEX (BASIC)

ENGINE OPERATION (BASIC)

COURSE OBJECTIVE

The trainees will be able to maintain the engine in safer way, thus contributing to a more effective operation of the machinery. They will learn the fundamentals of engine operating value evaluation and maintenance planning.

CONTENT OF THE COURSE

- Safety
- Engine design and function
- Engine instrumentation
- Engine automation and control system
- Start, stop and operation
- Engine maintenance schedule
- Fuel injection equipment

PREREQUISITES

The trainees should have essential knowledge of large medium speed engine principles as well as operational experience on gas and /or diesel engines. Theoretical education on internal combustion engines is preferred.

TARGET GROUPS

Ship Crew at the Support and Operational Level, as well as Power Plant Operators

DURATION: 3 working days

ENGINE TYPE: Wärtsilä 20, ZA40S, Wärtsilä Vasa 32,Wärtsilä 32 Wärtsilä 38, Wärtsilä 46, Wärtsilä 34SG, Wärtsilä 32GD, Wärtsilä 32DF, Wärtsilä 50DF and Wärtsilä 50SG

ENGINE OPERATION / PRACTICAL (ADVANCED)

COURSE OBJECTIVE

The trainees will be able to maintain the engine safely and contribute effectively to the operation of the machinery. They will learn the basics on engine operation evaluations and maintenance planning.

CONTENT OF THE COURSE

- Engine design and function
- Start, stop and operation
- Engine maintenance schedule
- Fuel injection equipment
- Maintenance operations, hands-on training
- Fault-finding and analysis
- Practical exercises and use of engine simulator

PREREQUISITES

The trainees should have essential knowledge of diesel engine principles and operational experience on diesel engines. Theoretical education background on internal combustion engines is preferred as well.

TARGET GROUPS

Ship Power Plant Engineers

DURATION: 5 working days

ENGINE TYPE: Wärtsilä 20, Wärtsilä 32,Wärtsilä 46 Wärtsilä Vasa 32, ZA40S, Wärtsilä 200

ENGINE PRACTICAL

COURSE OBJECTIVE

The participants will be able to maintain the engine in safer way, hence contributing to a more effective operation of the machinery. They will learn the essentials of engine operating value evaluation and maintenance planning.

CONTENT OF THE COURSE

- Safety
- Engine design and function
- Engine instrumentation
- Engine automation and control system
- Start, stop and operation
- Engine maintenance schedule
- Fuel injection equipment
- Hands on main engine components
- Evaluation of engine component condition

PREREQUISITES

The trainees should have background knowledge of large medium speed engine principles as well as operational experience on gas and/or diesel engines. Theoretical education on internal combustion engines is preferred.

TARGET GROUPS

Ship Crew at the Support and Operational Level, as well as Power Plant Operators

DURATION: 5 working days

ENGINE TYPE: Wärtsilä 20, ZA40S, Wärtsilä Vasa 32,Wärtsilä 32 Wärtsilä38, Wärtsilä 46, Wärtsilä 34SG, Wärtsilä 32GD, Wärtsilä 32DF, Wärtsilä 50DF, Wärtsilä 50SG

ENGINE RT - FLEX OPERATION AND CONTROL SYSTEM (ADVANCED)

COURSE OBJECTIVE

Upon completion of the course, the trainees should be able to work on the flex control system in "Operator mode"(pulse lubrication system, simulation of failures, modifications on control hardware, etc.).

CONTENT OF THE COURSE

- RT-flex design
- Hydraulic and pneumatic system
- WECS 9520 control system
- Pulse lubrication system
- Service aspects
- Mechanical hands-on
- Fuel linkage and actuator maintenance

PREREQUISITES

The trainees should be familiar with 2-Stroke engine systems. Formal engineering education is required.

TARGET GROUPS

Operational Level, Management Level, Electro Technical Officers and Electricians

DURATION: 5 working days

ENGINE RTA (BASIC)

COURSE OBJECTIVE

The training focuses on safe maintenance of RTA engine towards the goal of a more effective machinery operation.

CONTENT OF THE COURSE

- Main data
- Design and function
- Engine block, bearings and oil pump
- Bearings
- Fuel injection equipment and hands on
- Exhaust valve and hands on
- Turbocharging principle
- Piston, connecting rod, crosshead and liner
- Overhaul procedures and wear measurement

PREREQUISITES

The participants should have fundamental knowledge of 2-Stroke engine systems. Formal theoretical education in engineering is preferred but is not mandatory.

TARGET GROUPS

Operational Level and Management Level Engine Officers

DURATION: 5 working days

WÄRTSILÄ ENGINE CONTROL SYSTEM (WECS) 2000

COURSE OBJECTIVE

After this training, the trainees should be able to understand the main functions and components of WECS 2000.

CONTENT OF THE COURSE

- Main components of WECS 2000
- WECS specific function
- WECS documents
- Safety system
- Maintenance operations, hands-on

PREREQUISITES

The trainees should be familiar with engine control systems. Theoretical education of engineering is preferred.

TARGET GROUPS

Operational Level, Management Level, Electro Technical Officers and Electricians

DURATION: 2 working days

WÄRTSILÄ RT - FLEX (BASIC)

COURSE OBJECTIVE

After completing this training, the trainees should be able to differentiate the RT- flex engine from the conventional 2-Stroke engine and familiarize with the engine components, hydraulic, pneumatic and WECS 9500/9520 Control Systems.

CONTENT OF THE COURSE

- Comparison between RTA and RT-flex engines
- Philosophy of RT-flex technology
- Mechanical flex components
- Pulse lubrication system
- Hydraulics and pneumatic system
- WECS 9520 control system
- FlexView operator interface

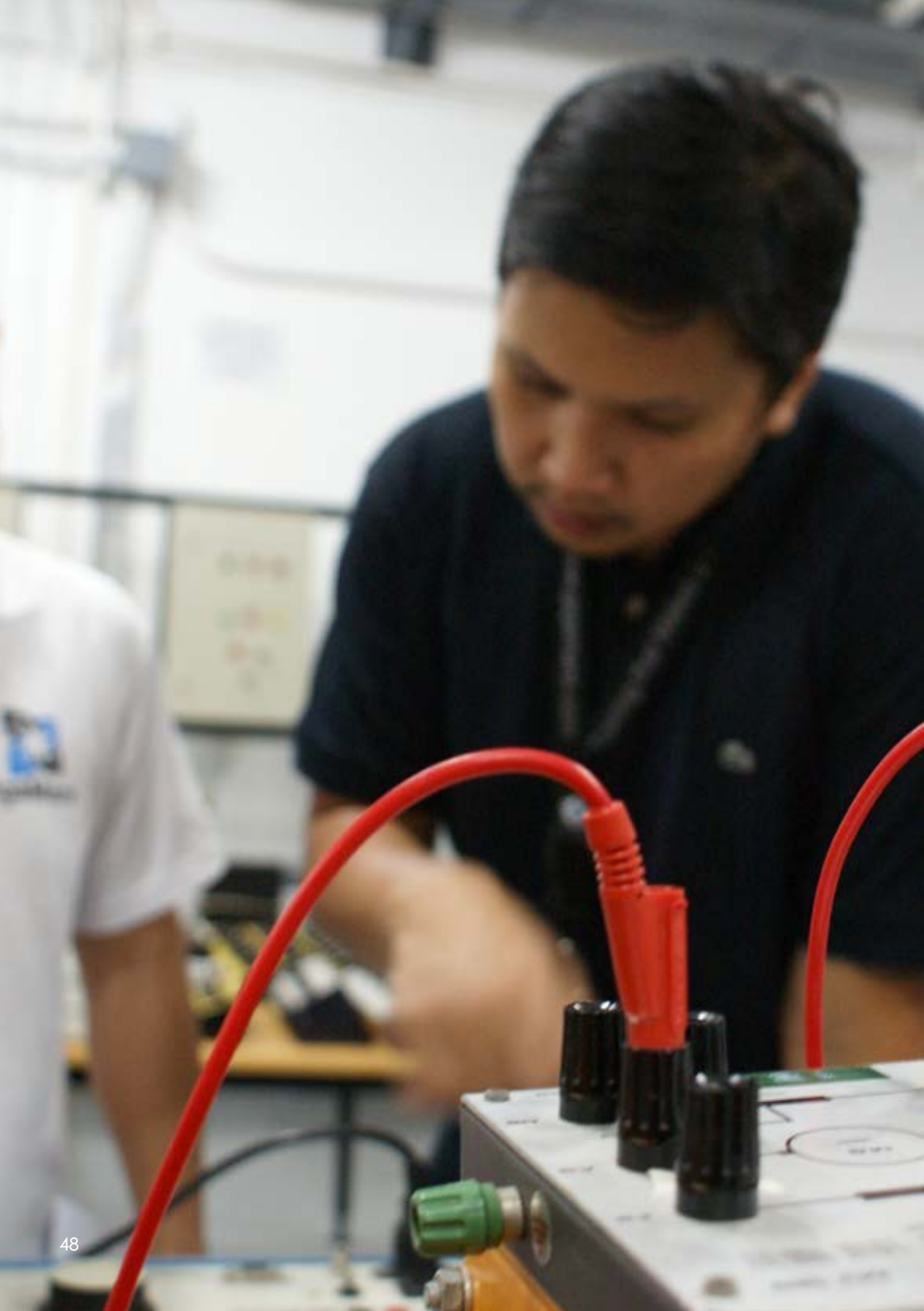
PREREQUISITES

The trainees should be familiar with 2-Stroke engine systems. Formal engineering education is preferred as well.

TARGET GROUPS

Operational Level, Management Level Engine Officers, Electro Technical Officers and Electricians

DURATION: 4 working days



ELECTRICAL AND AUTOMATION COURSES

- ELECTRICAL EQUIPMENT, SCHEMATICS AND SAFETY
- ELECTRICAL SAFETY
- EXPLOSION PROTECTION
- INSTRUMENTATION AND AUTOMATION
- MARINE HIGH VOLTAGE (MARINA ACCREDITED)
- MOTOR AND MOTOR CONTROLS
- PRACTICAL ELECTRICITY FOR MARINE ENGINEERS
- PROGRAMMABLE LOGIC CONTROLLERS (ADVANCED)
- REEFER CONTAINER

ELECTRICAL EQUIPMENT, SCHEMATICS AND SAFETY

COURSE OBJECTIVE

Upon completion of the course, the trainees should understand the safety requirements when working on shipboard electrical equipment. Training includes familiarization on the operational functions of electrical equipment, and application of electrical instruments, enabling the personnel to conduct maintenance and troubleshooting of electrical installations on board.

CONTENT OF THE COURSE

- Electrical safety
- Circuit testing
- Electrical measuring instruments
- Electrical schematics
- Electric motors
- Transformers
- Generators
- Preventive maintenance and repairs

PREREQUISITES

It is desirable that the trainees have knowledge of the ship's electrical systems and essential operational experience.

TARGET GROUPS

Operational and Management Level Marine Engineers, Electro Technical Officers and Electro Technical Ratings

DURATION: 5 working days

ELECTRICAL SAFETY

COURSE OBJECTIVE
After attending this training, the participants should be familiar with the safety measures of working with electrical systems.

CONTENT OF THE COURSE
- Safety principles
- Safety equipment
- Electrical hazards
- Procedures
- Protection devices
- Live testing
- Practical demonstration
- Isolation
- Earthing systems
- Hazardous areas
- Use of electricity and equipment in hazardous areas
- Working with high voltage

PREREQUISITES
The participants in this course should have sufficient theoretical and experience in electrical systems.

TARGET GROUPS
Marine Engineers, Electro Technical Officers and Electro Technical Ratings

DURATION: 3 working days

EXPLOSION PROTECTION

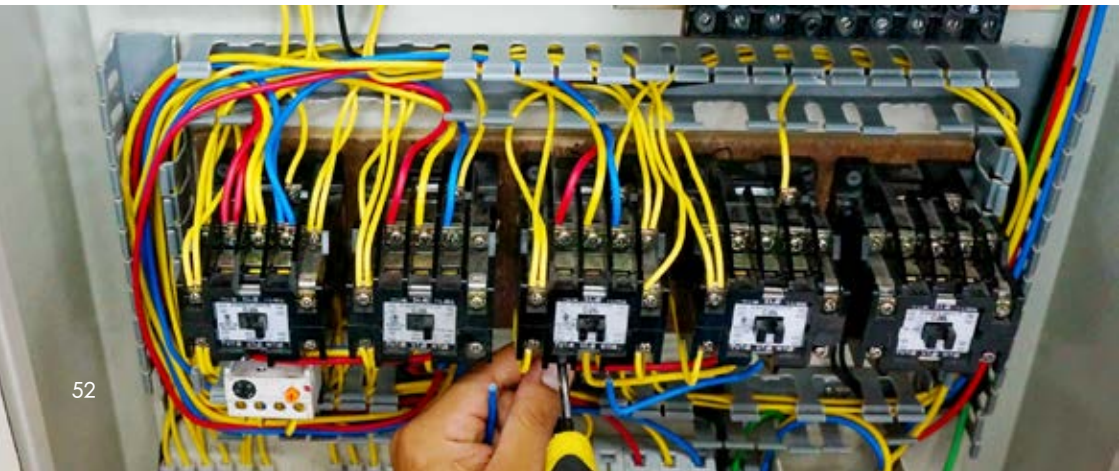
COURSE OBJECTIVE
The course focuses on classification of hazardous zones, properties of gases, bonding/earthing and maintenance of the Ex-proof equipment.

CONTENT OF THE COURSE
- International regulation/classification of vessels
- Hazardous areas
- Explosion Theory
- Properties of gas/liquid fuels
- Flash point
- Ignition temperature
- Explosion limits (UEL, LEL)
- Gas grouping and temperature class
- Ignition sources
- Classification of hazardous zone

PREREQUISITES
The course is open to all.

TARGET GROUPS
Sea going personnel assigned on tankers or gas carriers

DURATION: 2 working days



INSTRUMENTATION AND AUTOMATION

COURSE OBJECTIVE

After completing this training, the trainees should be more familiar on instrument and process control fundamentals (including basic ship automation systems). Participants should be able to perform electrical fault finding and maintenance.

CONTENT OF THE COURSE

- Electrical theory
- Measurement techniques
- Sensor types including PT100, thermocouple, magnetic pickups, proximity switch and pressure transmitters
- Fault finding techniques
- Automation equipment
- Ship's automation systems

PREREQUISITES

The trainee should have knowledge of engine room electrical systems and operational experience. Education in Electrical Engineering is preferred but not mandatory.

TARGET GROUPS

Operational, Management Level Engineers, Electro Technical Ratings and Electro Technical Officers

DURATION: 5 working days

MARINE HIGH VOLTAGE (MARINA ACCREDITED)

COURSE OBJECTIVE

After attending this training, the trainees should be familiar with the safe control and management of high voltage systems on board ships as per Table A-III/2 , AIII/1, A-III/6, and A-III/7 of the STCW Code.

CONTENT OF THE COURSE

- Pertinent regulatory matters (IMO, flag state, company specific)
- Electrification
- Regulations
- Alternators and automatic voltage regulators (AVRs)
- Medium voltage switch gears
- Hands-on exercises
- MV/LV transformers
- Power distribution
- Safety of operations

PREREQUISITES

The trainees should have knowledge and practical experience on electrical, engineering with 12-months of sea service.

TARGET GROUPS

Electro Technical Ratings, Electro Technical Officers, as well as Operational and Management Level Marine Engineers.

DURATION: 5 working days

COURSE APPROVAL: Finnish Flag State, Philippine Flag State. This course follows the MCA guidelines.

MOTOR AND MOTOR CONTROLS

COURSE OBJECTIVE

After this training, the trainees should be able to identify early signs of motor failure and corresponding corrective actions and maintenance. This course has the intention of closing the skill gaps and improving work performance of engine personnel.

CONTENT OF THE COURSE

- Motor construction and principles
- Types of motors and starters
- Motor starter safety
- Stopping of electric motors, speed control
- Tests on electric motors
- Maintenance and trouble shooting
- Hands-on

PREREQUISITES

The trainees should have knowledge and practical experience in marine electricity and design.

TARGET GROUPS

Operational and Management Level Marine Engineers, Electro Technical Ratings, and Electro Technical Officers

DURATION: 5 working days

PRACTICAL ELECTRICITY FOR MARINE ENGINEERS

COURSE OBJECTIVE

Upon completion of the course, the trainees should be able to become better acquainted with the electrical systems by learning and interpreting electrical manuals. Understanding the working principles and enabling the trainees to operate and maintain the electrical equipment in a safe and effective way.

CONTENT OF THE COURSE

- Electricity
- Motors and controllers
- Generator
- Automatic voltage regulator
- Switchgears and transformers
- Protective relaying
- Engine instrumentation and control
- Fault-finding and testing procedures
- Hands-on

PREREQUISITES

It is desirable that the trainees have knowledge of the ship's electrical systems and some operational experience.

TARGET GROUPS

Electro Technical Ratings, Electro Technical Officers, as well as Operational and Management Level Marine Engineers

DURATION: 5 working days

PROGRAMMABLE LOGIC CONTROLLERS (ADVANCED)

COURSE OBJECTIVE

After completing this training, the participants should be familiar with the principles of programmable logic controllers. Likewise, they will perform trouble shooting, fault finding and module programming.

CONTENT OF THE COURSE

- Electricity and safety
- Instrumentation
- Introduction to PLC
- History, evolution and definition of PLC
- PLC system
- PLC system softwares
- Hands-on training on PLC module

PREREQUISITES

The trainees of this course should have background knowledge of engine room electrical systems, and operational experience. Education in Electrical Engineering is preferred but not mandatory.

TARGET GROUPS

Operational and Management Level Marine Engineers, Electro Technical Ratings and Electro Technical Officers

DURATION: 5 working days

REEFER CONTAINER

COURSE OBJECTIVE

The course will train the personnel to understand basics of refrigeration. They will be able to identify the parts of reefer containers working operation, conduct maintenance of the container system, and perform necessary troubleshooting to avoid cargo damage and ship delays.

CONTENT OF THE COURSE

- Basics of refrigeration
- Reefer container parts and operation
- Cargo contained in a reefer container
- Types of refrigerant
- Gauge manifold
- Refrigerant charging and recovery
- Preventive maintenance and repairs

PREREQUISITES

It is desirable that the trainees have knowledge of basic refrigeration.

TARGET GROUPS

Operational and Management Level Marine Engineers, Electro Technical Officers, Electro Technical Ratings and Reefer Technicians

DURATION: 5 working days


GigaMare

EFFICIENCY AND ENVIRONMENTAL COURSES

- CORROSION PROTECTION AND PAINT MAINTENANCE
- ENERGY OPTIMIZATION
- FUEL EFFICIENCY MANAGEMENT - MARINE ENGINEERS AND DECK OFFICERS
- OIL DISCHARGE MONITORING AND CONTROL SYSTEMS
- OILY WATER SEPARATOR
- SHIP WASTE AND MARINE POLLUTION MANAGEMENT
- VOYAGE PERFORMANCE – CRUDE OIL
- VOYAGE PERFORMANCE – OIL PRODUCTS AND INTERMEDIATES

CORROSION PROTECTION AND PAINT MAINTENANCE

COURSE OBJECTIVE

This course intends to provide the trainees with the understanding on how corrosion occurs and how to prevent them. The participating personnel will be able to identify methods of surface preparation to minimize and prevent corrosion, be able to identify the various types of marine paint and their application methods, and describe the pre-treatment requirements (as well as the methods used, and standards for metal surface preparation towards proper coating application).

CONTENT OF THE COURSE

- Safety precautions prior surface preparation and paint application.
- Understanding of types of marine paints and its application
- Properties of various grades of paints and their usage.
- Storage, handling, and mixing of paints.
- Standards of surface preparation
- Surface preparation-hands-on using grit blaster
- Surface preparation-hands-on using hydro blaster
- Paint application techniques, using airless paint-spraying equipment
- Measurement of paint film thickness
- Maintenance and repair of grit-blasting/hydro blaster and paint-spraying equipment
- Solutions to common problems faced during surface preparation and paint application

PREREQUISITES

Participants for this course should be familiar with the safety requirements.

TARGET GROUPS

Ship Officers and Ratings

DURATION: 5 working days

ENERGY OPTIMIZATION

COURSE OBJECTIVE

At the end of this course, participating personnel are expected to contribute in the efforts to reduce operating costs of on-board power plant. They should be capable operate the engine and its systems to achieve energy saving goals and appreciate the importance of efficient engine operation and maintenance.

CONTENT OF THE COURSE

- Fuel injection equipment and injection timing
- Charge air cooler
- Turbocharger
- Fuel oil separator
- Steam boiler and other heat exchangers
- Refrigeration and air-conditioning plant
- Power management, electrical load and power factor
- Motor load and electrical losses
- VFD and propulsion engine power, load and fuel savings
- Navigational aspects of energy optimization
- Boosting energy efficiency
- Energy optimization and environmental issues
- New IMO regulations on energy savings

PREREQUISITES

Participants for this training should be Management and Operational Level Engineers.

TARGET GROUPS

Management and Operational Level Engineers

DURATION: 5 working days

FUEL EFFICIENCY MANAGEMENT - MARINE ENGINEERS AND DECK OFFICERS

COURSE OBJECTIVE

The main objective of this course is to build a culture around energy efficiency by discussing the implementation and monitoring of SEEMP, improving awareness of bridge and engine room practices that can contribute to the overall efficiency of the vessel to achieve fuel savings and encouraging goals and benefits.

CONTENT OF THE COURSE FOR ENGINEERS

- Specific Fuel Oil Consumption
- Engine condition
- Hull and propeller condition
- Tuning and timing of fuel pump
- Unit condition, cylinder, piston, rings
- Air and exhaust systems (including air coolers)
- Fuel injection equipment
- Turbocharger performance
- The principle for VIT and FQS
- Power management
- Electrical consumers/producers: A culture of energy efficiency
- Automated power management systems

CONTENT OF THE COURSE FOR DECK OFFICERS

- Voyage planning and execution
- TC requirements and operational practices
- Weather routing, including presentation of available software program
- Fuel changeover
- Ballast exchange and requirements
- Hydrodynamics
- Speed and consumption
- Hull and propeller condition (incl PBCFs)
- Trim & draft–impact on fuel consumption
- Autopilot settings and use of rudder' s impact on fuel consumption
- Speed trials and speed log calibration
- Engine system familiarization

FUEL EFFICIENCY MANAGEMENT - MARINE ENGINEERS AND DECK OFFICERS

COMMON CONTENT FOR ALL PARTICIPANTS

- IMO regulations and SEEMP
- Crucial points for successful SEEMP implementation
- Power management with case studies
- Bunker management
- SEEMP workshop/SEEMP management
- Simulator exercises in linked engine and ship simulators

PREREQUISITES

Participants should have knowledge and experience on the operation and maintenance of the main and auxiliary engines. Ideally navigation officer/s for the deck course.

TARGET GROUPS

Senior/ Junior Deck and Engine Officers, as well as Technical and Marine Superintendents

DURATION:

5 working days for Engine Officers
4 working days for Deck Officers

OIL DISCHARGE MONITORING AND CONTROL SYSTEMS

COURSE OBJECTIVE

After attending this course, the trainee shall have the opportunity to operate, analyze and trouble shoot alarms, dissect system layouts (such as piping, cargo pumps, tank cleaning washing machine, gauging system) and monitor console. These include power supply, power startup and other related items associated with oil discharge monitoring and control systems. In addition, trainees will have hands-on experience utilizing step-by-step checklists and procedures for the system operations and calibration. This is preceded by a detailed briefing session to ensure the students are aware of the steps and practical application at the commencement of testing, measurement & monitoring operation, calibration, recording events, analyzing alarms and acknowledging in real time mode.

CONTENT OF THE COURSE

- ODMCS actual installation
- MARPOL CBT "meeting marpol standards" from GMI-research and development department
- Flow and actual sounding/ullaging
- Actual oil / water interface measurement
- Full size cargo, slop and overboard tanks erected.
- Actual pumps, valves, piping, and full ODM system with instrumentation
- LAN system integration for date readouts
- GPS input and log speed input in real time mode
- System integrated to classroom for downloading recorded data for debriefing and briefing purposes

PREREQUISITES

It is desirable that students have previously attended a course covering these issues: MARPOL 1 and MARPOL 2 IMO course or ship waste and marine pollution management course.

TARGET GROUPS

Seafarers who have relevant experience appropriate to their duties on tankers

DURATION: 5 working days

OILY WATER SEPARATOR

COURSE OBJECTIVE

After attending this training, the participants should be familiar with the operation, preventative maintenance, and troubleshooting of the OWS units.

CONTENT OF THE COURSE

- Legislation requirements
- Design and function
- Instrumentation and automation system
- Hands-on line up and prepare the unit for operation
- Chemical MSDS
- Operating instructions
- Hands on: Operation and servicing of the unit

PREREQUISITES

The trainees should have attended MARPOL training, and are expected to have essential knowledge and operational experience on oily water separation (the engine room or power plant). Theoretical education on engineering is preferred.

TARGET GROUPS

Operational and Management Level Engineers

DURATION: 3 working days

SHIP WASTE AND MARINE POLLUTION MANAGEMENT

COURSE OBJECTIVE

After attending this training, the trainee should be familiar with the environment requirements set forth by MARPOL, OPA 90, and other conventions. They should be able to demonstrate the operation of oil discharge monitoring equipment, oily water separator and other related equipment and maintain records of activities in the oil record book.

CONTENT OF THE COURSE

- Legislative requirements as per MARPOL/OPA 90 and other IMO conventions.
- SOPEP, OPA 90 and vessel response plan.
- Waste management planning, antifouling systems, ballast water management and exhaust gas emission control.

PREREQUISITES

The trainees should have completed MARPOL Annexes 1 and 2 courses.

TARGET GROUPS

Deck and Engine Personnel (with Management, Operational and Support Responsibilities)

DURATION: 5 working days

VOYAGE PERFORMANCE - CRUDE OIL

COURSE OBJECTIVE

The aim of the course is to gain deeper understanding of crude oil tanker's voyage from prior to loading to after discharge, identify and prevent possible problems, and improve the performance. Especially the target is that the trainee will gain understanding of the "big picture" as the oil industry is very wide and variable.

CONTENT OF THE COURSE

- Understanding the end-to-end voyage
- Loss types and avoidance
- Measurement tolerances
- Tank preparation
- Understanding demurrage
- Issues with product quality
- Environmental issues
- Understanding the roles or parties
- International standards
- Understanding quality parameters, "what and why"
- Loss control
- Case studies

PREREQUISITES

This course is suitable for all personnel.

TARGET GROUPS

Shipboard Operational Level and Management Level Deck / Cargo Officers, Pump Men, Ship Management Staff, Charterers, Oil Trading Operators, Oil Traders, Terminal Personnel, Cargo Inspectors, and Cargo Superintendents

DURATION: 2 working days

VOYAGE PERFORMANCE - OIL PRODUCTS AND INTERMEDIATES

COURSE OBJECTIVE

The goal of the course is to gain deeper understanding of product tanker' s voyage from prior to loading to after discharge, identify and prevent possible problems, and improve the performance. Especially the target is that the trainee will gain understanding of the big picture as the oil industry is very wide and variable.

CONTENT OF THE COURSE

- Understanding the end-to-end voyage
- Loss types and avoidance
- Measurement tolerances
- Tank preparation
- Understanding demurrage
- Environmental issues
- Crude oil specific quality parameters
- Crude oil washing
- Understanding the roles or parties
- International standards
- Understanding quality parameters, "what and why"
- Loss control
- Case studies

PREREQUISITES

This course is suitable for all personnel.

TARGET GROUPS

Shipboard Operational Level and Management Level Deck / Cargo Officers, Pump Men, Ship Management Staff, Charterers, Oil Trading Operators, Oil Traders, Terminal Personnel, Cargo Inspectors and Cargo Superintendents

DURATION: 2 working days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PLANNED MAINTENANCE SYSTEM COURSE

- AMOS-WINDOWS TRAINING

AMOS-WINDOWS TRAINING

COURSE OBJECTIVE

The goal of the course is familiarization and understanding of AMOS System's functions and features.

CONTENT OF THE COURSE

- Update running hours of main and sub-counters
- Issue, register, generate, report and reschedule work orders
- Create and update equipment history
- Register new components, additional jobs and new stock items into AMOS

PREREQUISITES

The trainees should have prior knowledge of computer operation.

TARGET GROUPS

Deck and Engine Officers who are taking part in the Planned Maintenance System, Purchasing and Inventory Control

DURATION: 4 working days


RITON

DECK AND NAVIGATION COURSES

- BOSUN DEVELOPMENT
- BRIDGE TEAM MANAGEMENT WITH MRM
- COLLISION AND GROUNDING AVOIDANCE
- ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM (CONSILIUM ECDIS)
- ICE NAVIGATION (BASIC POLAR CODE)
- SAFE MOORING OPERATIONS
- SHIP HANDLING (BASIC)
- SHIP HANDLING (ADVANCED)
- SHIP SIMULATOR AND BRIDGE TEAMWORK
- SHIP TO SHIP LIGHTERING OPERATIONS
- SIMULATOR TRAINING IN CRITICAL SITUATIONS

BOSUN DEVELOPMENT

COURSE OBJECTIVE

After completing the training, the trainees should be able to perform and demonstrate competency in (Bosun) tasks including but not limited to: berthing, anchoring and other mooring operations, handling of cargo and stores, safe operation of deck equipment and machinery, shipboard maintenance, welding and cultural awareness.

CONTENT OF THE COURSE

- Shipboard leadership
- Cultural awareness
- On board routines
- Berthing, anchoring and other mooring operations
- Handling and securing cargo & stores
- Welding – arc and gas
- Safe operation of deck equipment and machinery
- Surface preparation, paint and corrosion prevention
- Occupational health and safety
- Prevention of pollution of the marine environment
- Shipboard maintenance and repair

Specialized Equipment for Training:

- Fully functional mooring station
- Welding facility
- Framo facility
- Mock up and overhead crane

TARGET GROUPS

Deck Ratings (who are due for promotion as Bosun), existing Bosun who needs refresher training. The course may be customized for Ratings who are serving on board tanker vessels.

DURATION: 25 working days

BRIDGE TEAM MANAGEMENT WITH MRM

COURSE OBJECTIVE

After attending this training, the trainee should be able to utilize available resources in handling ships under various critical conditions. They should be able to eliminate human error and develop confidence and effectively contribute to the bridge team during ship maneuvering showing in depth knowledge and appreciation of the principles and practices of Maritime Resource Management.

CONTENT OF THE COURSE

- The training contains implementation of standardized bridge procedures and checklists with reference to bridge procedures guide 2007. Company specific procedures can also be used as requested.
- The Bridge team management training includes refresher in Maritime Resource Management (MRM). With these combined trainings, participants will achieve a better understanding of teamwork and utilize company SMS.
- Theory lessons are alternated with practical training in our bridge simulators.

TARGET GROUPS

Operational and Management Level Officers

DURATION: 5 working days

COLLISION AND GROUNDING AVOIDANCE

COURSE OBJECTIVE

The course aims to train the participants in having comprehensive understanding on the Rules of the Road. They will be able to apply the rules and demonstrate proper watch keeping on the bridge and show safe attitude as part of the bridge team.

CONTENT OF THE COURSE

- In-depth analysis of ColReg
- Refresher in bridge procedures
- Attitudes to safe navigation
- Case studies at the bridge simulator

TARGET GROUPS

Operational Level Deck Officers and Officer Trainees.

DURATION: 5 working days

ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM (CONSILIUM ECDIS)

COURSE OBJECTIVE

All ECDIS users should hold a generic and a manufacturer specific ECDIS certificate. A user, aware of the advantages and limitations of an ECDIS, contributes to safer navigation. He / she is, in case of malfunction, must be able to maintain the control of the ship and safely step down in the automated level of the bridge navigation system.

CONTENT OF THE COURSE

The type - specific CONSILIUM ECDIS training covers the following areas:

- Familiarization with available functions including function keys
- Familiarization with the menu structure
- Display setup including own ship setup
- Setting of safety values
- Sensor inputs
- Recognition of alarms and malfunction indicators and the actions to be taken
- Route planning and validation of the route for anti-grounding and special areas alarms
- Route plan tables and voyage plans
- Route monitoring including analyze and act on given alarms
- ARPA and AIS-targets
- Obtaining information from selected objects
- Logbook functions
- Changing over to backup systems
- Play back
- ENC cell and ARCS coverage
- Loading charts and licenses
- ENC and ARCS updates, by CD and by MDS
- Manual corrections
- Updating of software
- MBA (MDS), including chart management, weather forecast, tide tables, port database (Fairplay) and Voyage plan

TARGET GROUPS

Cadets, Junior, and Senior Deck Officers

DURATION: 3 working days

ICE NAVIGATION – BASIC POLAR CODE

COURSE OBJECTIVE

This course provides training to navigation officers to operate ships in polar waters and to address those additional provisions deemed necessary for consideration beyond existing requirements of the SOLAS and MARPOL Conventions, in order to take into account the climatic conditions of polar waters and to meet appropriate standards of maritime safety and pollution prevention.

The course is designed to meet the mandatory minimum STCW requirements for the training and qualifications of masters and deck officers on ships operating in polar waters, specifically as these apply to Tables A-V/4-1 "Specification of minimum standard of competence in basic training for ships operating in polar waters".

CONTENT OF THE COURSE

- Ice nomenclature, characteristics and detection
- Regulations and standards
- Vessel characteristics
- Maneuvering in Ice
- Passage planning and reporting
- Icebreaker assistance
- Vessel performance in polar waters/low air temperature
- Crew preparation, working conditions & safety
- Environment
- Simulator exercises

TARGET GROUPS

Masters and Deck Officers

DURATION: 3 working days

SAFE MOORING OPERATIONS

COURSE OBJECTIVE

This course aims to help the ship management and the crew prepare and plan a safer mooring. It present tools and knowledge focusing on how to prevent accidents when mooring.

After this training course, the trainees should be able to use mooring and anchoring equipment in a proper and safe manner. They should be able to perform risk assessment, anchor operations safely and understand the purpose and perform greasing of mooring equipment.

CONTENT OF THE COURSE

- Introduction to safe mooring operations
- Mooring and anchoring equipment
- How to moor safely
- How to prevent accidents
- Tools to improve safety culture

Practical Training includes:

- Use of real mooring and anchoring equipment
- Perform a risk assessment
- Prepare for a mooring operation
- Perform mooring operation safely
- Perform anchor operation safely
- Perform greasing of mooring equipment

PREREQUISITES

Trainees should be able to understand and communicate in English.

TARGET GROUPS

Deck Ratings and Deck Officers

DURATION: 3 working days

SHIP HANDLING (BASIC)

COURSE OBJECTIVE

Officers are being promoted to captains. What about their skills in ship handling? In case of an incident/emergency, is there any officer on board, who is capable of replacing the captain when it comes to maneuvering the ship?

Do you have demands of ship handling from vetting inspections? Allow your officers to enhance their skills on ship handling in a simulator with close to real life environment.

CONTENT OF THE COURSE

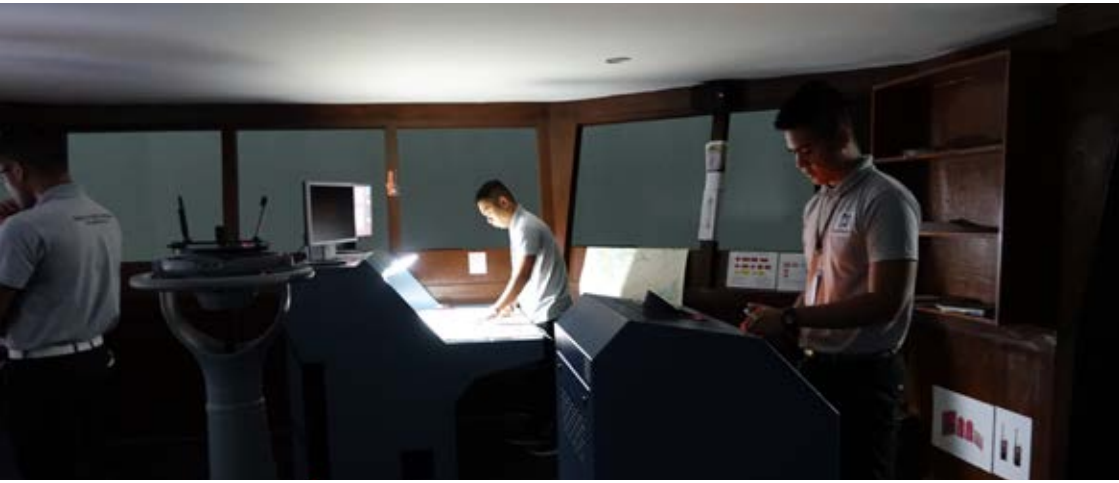
- The Ship Handling course includes refreshers in squat, interaction and bank effects, propulsion systems, external forces on the ship.
- Different types of ships and propulsion systems are available in the simulator.
- Individual assessment of performance may be included as requested
- Bridge simulators, computerized training programs and case studies are used for reinforcement and implementation of the knowledge.

TARGET GROUPS

Masters, Senior Deck Officers (being promoted to Masters), as well as pilots. The course may also be adjusted to meet the level of Junior Officers; taking into account their actual experience

DURATION: 5 working days

SHIP HANDLING (ADVANCED)



COURSE OBJECTIVE

Do you have a need to improve skills in ship handling in severe wind and/or tide conditions; when under tugboat assistance; in narrow ports and poor visibility? Do you have requirements on a specific harbor area or do you want your own ship type to be used in simulator training?

CONTENT OF THE COURSE

This course can be tailor-made to meet your specific demands. At GigaMare, we can create new vessel types and exercise areas. This opportunity enables training of mooring/unmooring operations of your own ship type(s) in your regular harbor area(s) in different types of weather conditions.

TARGET GROUPS

Senior Deck Officers, and Pilots

DURATION: 3 to 5 working days

SHIP SIMULATOR AND BRIDGE TEAMWORK

COURSE OBJECTIVE

After attending this training, the participants should be able to demonstrate competence in handling ships under various conditions and will make a more effective contribution to the bridge team during ship maneuvering in normal and emergency situations. Participants will have greater awareness and understanding of the effects on the behavior of the ships wind, current, shallow water, banks and narrow channels and condition of loading. Participants will understand the importance of planning a passage or maneuver and the need for an alternative plan; efficient bridge procedures and bridge teamwork during watch keeping and ship handling, in normal and in emergency situations; good interactive communication style and benefit of building up a common shared mental model of the planned passage.

CONTENT OF THE COURSE

- Review of basic principles; Company SMS
- Bridge familiarization
- Standard maneuvers
- Wind and current effects
- Attitude and Management Skills
- Cultural Awareness
- Communication and Briefings
- Challenge and Response
- Turning and Shallow water effects
- Bank, channel and interaction effects
- Planning and Short-term Strategy
- Authority and Assertiveness
- Management Styles
- Workload and Stress
- Anchoring and single-buoy mooring
- Human involvement in error
- Judgment and Decision making
- Crisis and Crowd Management
- Planning and execution of a voyage in normal and emergency situations

TARGET GROUPS

Operational Level, Management Level Officers, and Cadets

DURATION: 5 working days

SHIP TO SHIP LIGHTERING OPERATIONS

COURSE OBJECTIVE

After attending this training, the participants who are involved in ship-to-ship operations should be able to demonstrate the importance of using standard procedures, checklists, effective communication and gain ship maneuvering experience with an emphasis on the correct approach angle and matching of ship speeds. They will also observe the effects of ship to ship interaction.

CONTENT OF THE COURSE

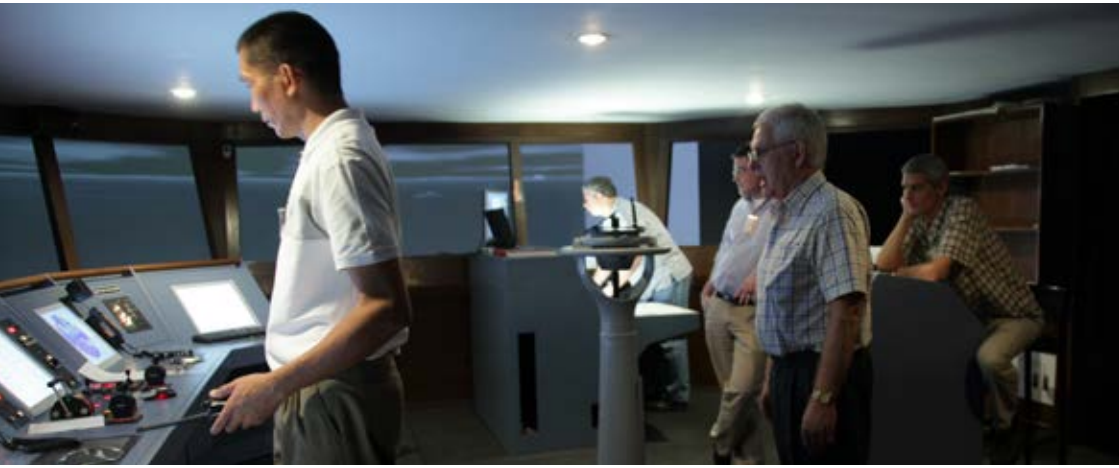
- The ICS/OCIMF "Ship to Ship Transfer Guide (Petroleum) 4th Edition" and its checklists are the main references of the theoretical part of this course.
- The practical part consists of a number of simulator exercises wherein STS operations are training underway mooring in different weather conditions. The STBL (mother vessel) is a Suezmax tanker while the maneuvering vessel is a 37.000 product tanker. The intensity of the exercises will be raised by adding critical situations, e.g. malfunction on critical propulsion systems.

TARGET GROUPS

Masters and Senior Deck Officers

DURATION: 3 working days

SIMULATOR TRAINING IN CRITICAL SITUATIONS



COURSE OBJECTIVE

This course provides training in critical situations, which are difficult to exercise on board; like malfunction in the navigation equipment and propulsion as well as a man-over-board situation.

CONTENT OF THE COURSE

Fundamental focus in simulated scenarios:

- Various traffic conditions in various weather conditions
- Teamwork between Master/ OOW / Pilot
- Use of tugs
- Malfunctions in bridge equipment and propulsion / thrusters/ tugs
- Man-over-board situation
- Use of SOP and checklist

TARGET GROUPS

Experienced Nautical Officers and other responsible personnel with navigation duties (forming part of the bridge team)

DURATION: 3 working days


FURUNO


GigaMare

RESOURCE MANAGEMENT COURSES

- HUMAN ELEMENT IN SHIP SIMULATION (HEISS)
- LEADERSHIP AND TEAMWORK(HUMAN ELEMENT AND LEADERSHIP MANAGEMENT)
- MARITIME RESOURCE MANAGEMENT

HUMAN ELEMENT IN SHIP SIMULATION (HEISS)

COURSE OBJECTIVE

It is common practice in safety critical industries like the military, aviation and shipping, to simulate possible scenarios in a risk-free learning environment of a simulator.

GigaMare is the first TOPSIM-accredited provider of HEISS training in Asia (Feb 22, 2017). TOPSIM is a German company with over 30 years of experience in creating management simulations. Their management simulations are in use in more than 300 universities, high schools, other institutions, and companies. TOPSIM-HEISS is a maritime management simulation, designed for the shipping industry. Turning Learning Into Action (TLA) methodology is used, facilitating the leap to effective learning transfer.

The main objective of the course is for the participant to be able to recognize and consider external and environmental factors for team success in a dynamic environment.

CONTENT OF THE COURSE

- Evaluate people data
- Effective leadership and communication interventions on board
- Recognize and understand resistance
- Communication tools, and targeted communication measures
- Experience the captain's leadership challenges
- Operationalize the organization's values

The course content has five main pillars (1) Awareness, (2) Motivation, (3) Commitment, (4) Performance and (5) Continuity

TARGET GROUPS

Ship Officers (Management and Operational Level), Superintendents, Operators, Office Staff with management responsibility

DURATION: 4 working days

LEADERSHIP AND TEAMWORK (HUMAN ELEMENT AND LEADERSHIP MANAGEMENT)

COURSE OBJECTIVE

The course is intended to provide a person with knowledge, skill and understanding of leadership and teamwork at the operational level on board a ship.

CONTENT OF THE COURSE

- Cultural awareness, inherent traits, attitudes and behavior, cross-cultural communication
- Shipboard situation, informal social structures on board
- Human error, situation awareness, complacency, boredom
- Leadership and teamwork
- Int. maritime conventions and national legislation, emphasis on human factors
- Ability to apply task and workload management
- Human limitations, time and pressure constraints
- Workloads, rest and fatigue
- Management (leadership) styles, challenges and responses
- Effective communication
- Allocation, assignment and prioritization of resources
- Assertiveness and leadership, motivation, short and long-term strategies
- Situation and risk assessment, selecting course of action, evaluation of outcome
- Decision making and problem-solving techniques
- Authority and assertiveness, emergency management

PREREQUISITES

Participants should be familiar with shipboard operations to understand that leadership and teamwork is an essential part of their role on board at the operational level.

TARGET GROUPS

Deck and Engineer Officers at the Operational Level

DURATION: 5 working days

This course is approved by Finnish Flag State.

MARITIME RESOURCE MANAGEMENT

COURSE OBJECTIVE

The course is designed to minimize the risk of incidents by encouraging safe and responsible behavior. It aims to foster positive attitudes favoring good communication, teamwork, excellence in leadership skills and compliance with standard operating procedures.

The objective is to ensure that sound resource management practices underpin everyday operations.

CONTENT OF THE COURSE

- Licensed by ALL Academy (The Swedish Club), this course follows the concept of alternating CBT modules with group discussions.
- Simulator sessions are added to enhance application of resource management principles.

TARGET GROUPS

Junior and Senior Deck/Engine Officers. A mix of participants with different cultures and backgrounds enhances the outcome of this course. Deck and Engine officers may also be mixed.

DURATION: 4 to 5 working days


Speed 0.00 kts
SAMSUNG

TANKER/CARGO MANAGEMENT COURSES

- CRUDE OIL WASHING AND INERT GAS SYSTEMS
- GAS MEASURING
- LIQUEFIED NATURAL GAS CARGO HANDLING SIMULATOR
- LIQUEFIED NATURAL GAS FAMILIARIZATION
- LIQUEFIED PETROLEUM GAS CARGO HANDLING SIMULATOR
- LIQUID CARGO HANDLING SIMULATOR FOR CHEMICAL TANKER
- LIQUID CARGO HANDLING SIMULATOR FOR OIL TANKER

CRUDE OIL WASHING AND INERT GAS SYSTEMS

COURSE OBJECTIVE

After attending this training, the participants should be able to demonstrate and carry out responsibilities during loading, discharging and care in transit or handling of cargo on an oil tanker.

CONTENT OF THE COURSE

- Conventions and regulations
- Applied science
- Inert Gas Systems (IGS)
- Inert gas plant components
- Gas monitoring equipment
- Inert gas distribution system procedures and operations
- Perform hands-on training on cargo handling simulator and gas measuring equipment

PREREQUISITES

The trainee should have undergone oil tanker familiarization course.

TARGET GROUPS

Operational Level and Management Level Deck Officers

DURATION: 3 working days

GAS MEASURING

COURSE OBJECTIVE

After attending this training, the participants should be able to familiarize themselves with the safe practices of gas measuring devices and be made fully aware of safety and hazards in tank entry procedures, enclosed spaces, and other dangerous areas as defined by regulations and company SMS.

CONTENT OF THE COURSE

The course covers the following topics, but not limited to:

- Safe entry – tank/enclosed space atmosphere evaluation
- Work in confined spaces
- Types of gases and their hazards physical and chemical properties of petroleum cargoes carried in bulk
- Risk assessment system/safe job analysis
- Familiarization of gas measuring instruments
- Operating principles, accuracy and limitations
- Sampling lines and pumps
- Calibration procedures
- Safety equipment and protection of personnel

PREREQUISITES

This course is open to all seafarers.

TARGET GROUPS

Seafarers who have relevant experience appropriate for their duties on tankers

DURATION: 3 working days

LIQUEFIED NATURAL GAS CARGO HANDLING SIMULATOR

COURSE OBJECTIVE

Upon completion of the course, the participants should be able to demonstrate use of liquid cargo handling simulator on LNG Cargo handling operations including, but not limited to:

- Inerting
- Gassing up
- Cooling down
- Load planning
- Loading with shore vapor return
- Cargo quantity
- Calculations
- Cargo qumps
- Discharge planning
- Complete discharge
- Loaded and ballast passage
- Gas freeing and warm up

CONTENT OF THE COURSE

- Introduction
- Load planning
- Cargo handling and care
- Discharge planning

PREREQUISITES

The trainees must have undergone the LNG Familiarization.

TARGET GROUPS

The course is designed for personnel, who have limited direct experience of the operation associated with carriage of liquefied natural gas or chemical gases, but do not have a basic theoretical knowledge, on management or operational level, and those on the support level, who are directly involved in cargo transfer operation of liquefied petroleum gas.

DURATION: 5 working days

LIQUEFIED NATURAL GAS FAMILIARIZATION

COURSE OBJECTIVE

After attending this training, the participants should be able to demonstrate the concepts involved with the safety aspects in a tanker operation and effectively support LNG cargo handling operations.

CONTENT OF THE COURSE

- Characteristics and properties of LNG
- Cargo system, design and construction
- Cargo equipment, operations and uses, precautions
- Summary and evaluation

PREREQUISITES

The trainees should have undergone shore-based firefighting training.

TARGET GROUPS

Operational and Support Level

DURATION: 5 working days

LIQUEFIED PETROLEUM GAS CARGO HANDLING SIMULATOR

COURSE OBJECTIVE

After attending this training, the participants should be able to demonstrate using the liquid cargo handling simulator. LPG Cargo handling operations including, but not limited to:

- Inerting
- Gassing up
- Cooling down,
- Load
- Planning
- Loading with shore vapor return
- Cargo quantity calculations
- Cargo pumps
- Discharge planning
- Complete discharge
- Loaded and ballast passage
- Gas freeing and warm up

CONTENT OF THE COURSE

- Introduction
- Load planning
- Cargo handling and care
- Discharge planning

PREREQUISITES

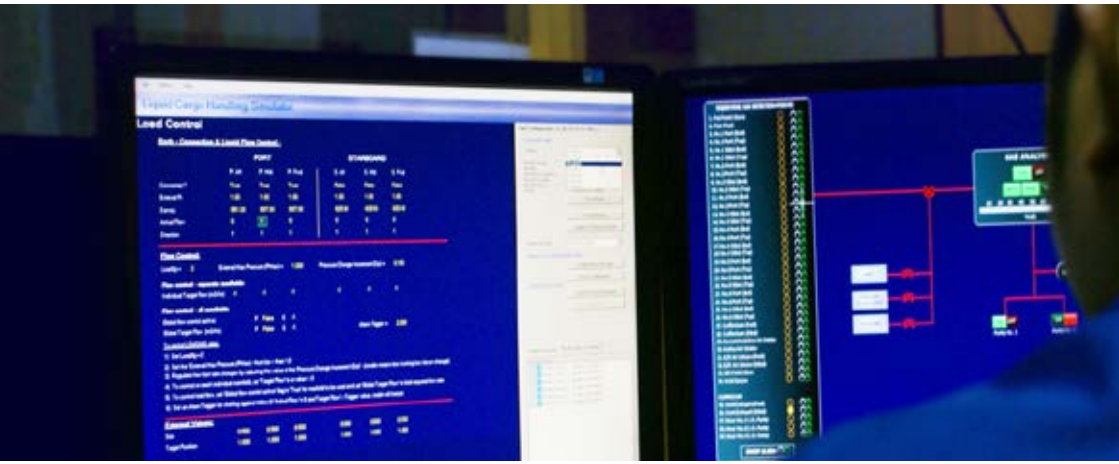
The trainees must have undergone the LPG Familiarization.

TARGET GROUPS

Operational and Management Level Deck Officers

DURATION: 5 working days

LIQUID CARGO HANDLING SIMULATOR FOR CHEMICAL TANKER



COURSE OBJECTIVE

After attending this training, the participants should be able to demonstrate operational skills for chemical tanker operations using the liquid cargo handling simulator.

CONTENT OF THE COURSE

- Familiarization, cargo planning
- Tank preparation, washing and inerting and commence loading
- Mid loading, monitoring commence more loading, ballast
- Complete loading first port, loaded voyage, monitoring and agitation
- First discharge and second load port
- Mid second port – loading, discharge & pre-wash
- Completion of discharge including stripping
- Wash, ventilation and cooling
- Discharge residues at sea according to MARPOL

PREREQUISITES

Students should have taken chemical tanker familiarization course.

TARGET GROUPS

Operational and Management Level Deck Officers

DURATION: 5 working days

LIQUID CARGO HANDLING SIMULATOR FOR OIL TANKER

COURSE OBJECTIVE

The course will train the participants to demonstrate operational skills for oil tanker operations, carry out procedures for handling oil products namely loading, discharging, topping up, stripping and tank clearing.

CONTENT OF THE COURSE

- Familiarization with the crude oil tanker simulator
- Simulator exercises
- Crude oil tanker ship cargo operations
- Inert gas systems
- COW operations

PREREQUISITES

Students should have previously attended the Oil Tanker Familiarization course.

TARGET GROUPS

Operational and Management Level Deck Officers

DURATION: 5 working days

ASSESSMENT SERVICES

- ETO AND ETR PRACTICAL ASSESSMENT (MARINA ACCREDITED)
- RATINGS, OFFICERS, AND CADETS

ETO AND ETR PRACTICAL ASSESSMENT (MARINA ACCREDITED)

ASSESSMENT SERVICES FOR

Marina Accredited Practical Assessment Centre (PAC) for Electro-Technical Officer and Electro-Technical Rating.

OBJECTIVE

GigaMare' s assessment services provide an independent, scientific, factual, structured and systematic approach in determining personnel competence. Assessments are beneficial for Electricians applying for Electro Technical Rating Certificate of Proficiency and Electro Technical Officer Certificate of Competency provided that they are secured a practical assessment permit from the administration.

PROCESS

Practical/ Demonstration

PREREQUISITES

The participant can only undergo the assessment if he / she has secured a practical assessment permit from the administration

TARGET GROUPS

Electro Technical Officer
Electro Technical Rating

RATINGS, OFFICERS AND CADETS

ASSESSMENT SERVICES FOR
Deck/Engine Ratings, Officers, and Cadets

OBJECTIVE
GigaMare's assessment services provide an independent, scientific, factual, structured, and systematic approach in determining personnel competence and training requirements. Assessments are beneficial for existing and newly hired crew and candidates for promotion.

PROCESS
- Theoretical - Computer based tests
- Oral interview
- Practical / demonstration

PREREQUISITE
Assessments are open to all seafarers

TARGET GROUPS
Deck Officers and Engine Officers, Rating and Electro Technical Officers

CADET PROGRAMS

- STRUCTURED TRAINING FOR DECK CADETS
- STRUCTURED TRAINING FOR ENGINE CADETS
- STRUCTURED TRAINING FOR GAS/CARGO ENGINEERS
- STRUCTURED TRAINING FOR ELECTRO TECHNICAL OFFICER (MARINA ACCREDITED)
- STRUCTURED TRAINING FOR ELECTRO TECHNICAL RATING (MARINA ACCREDITED)

STRUCTURED TRAINING FOR CADETS

PROGRAM OBJECTIVE

The structured training program assures the development of future captains and chief engineers within your organization. GigaMare Inc. will assist you from the assessment and selection process to the level of attaining their OIC licenses for Navigation Watch or Engineering Watch. In partnership with the oldest Maritime University in Finland, ABOA MARE, we develop and deliver nautical and engineering programs. We have the tools to monitor the cadet's progress on board, assessing and addressing the learning gaps. We also have an online Learning Management Support System providing cadets with additional learning support whenever and wherever they are located. Partner with us in mentoring future concentrate on more essential aspects of your business, maximizing your return on investment.

WHAT WE OFFER

GigaMare's structured training program is aimed for Deck and Engine Cadets who have completed the 3-years academic requirements. The duration includes a 16-weeks program in our training facility in Subic Bay, as well as a 12-months sea service onboard the customers vessel in order to qualify for the sea-time requirement licensure exams.

BENEFITS OF THE STRUCTURED TRAINING PROGRAM

The cadet program is beneficial to help customers secure competent workforce in the future. It will assist in shortening the advancement to promotions for future officers within your company. The cadets will become familiar with the companies SOP by integrating procedures and manuals provided by the customer. The learning goes beyond GigaMare's training facility as it continues onboard through our constructed onboard training monitoring.

ENTRY STANDARDS

GigaMare Inc. collaborates with clients in conducting the pre selection process. Standards are specified by clients on the selection of candidate in the academic, personality and suitability aspect.

GigaMare Inc. conducts a computer based test, relevant to the educational background of the candidate. An initial interview will be the next step in order to ascertain the candidate's social and technical suitability for the program. We provide clients triple the number of possible candidates required. Those which show potential are admitted into the program.

STRUCTURED TRAINING FOR CADETS

THE FOLLOWING COURSES ARE INCLUDED IN THE PROGRAM:

- Terrestrial Navigation A – Chartwork
- Terrestrial Navigation B – Chart Updates
- Terrestrial Navigation C – Set
- Terrestrial Navigation D – Voyage Planning
- Meteorology
- Basic Radar
- Sensors
- Manual Radar Plotting
- ARPA + AIS
- COLREG
- Steering Systems
- Tidal Calculation
- Bridge Routines
- International Maritime Safety
- Deck Cadet and Jr Officer On Board (DCJOO)
- Trim & Stability
- Maneuvering
- Maritime Resource Management
- Electronic Chart Display & Information System
- Watch keeping
- Practical Navigation
- Assessment in Simulator

STRUCTURED TRAINING FOR ENGINE CADETS

THE FOLLOWING COURSES ARE INCLUDED IN THE PROGRAM:

- Engineering Systems 1
- Engineering Systems 2
- Engineering Systems 3
- Auxiliary Systems
- Engine Room Workshop
- Diesel Engine Part 1
- Diesel Engine Part 2
- Boiler Operations and Feed Water
- Marine Electro Technology
- Instrumentation and Automation
- Separator
- Engine Room Routines and Watch
- Hydraulics and Pneumatics
- Marine Refrigeration and Air Conditioning
- Marine Welding
- HELM (Human Element, Leadership & Management) with MRM
- Ensure Compliance with Pollution Prevention Requirements
- Engine Simulator
- Assessment

STRUCTURED TRAINING FOR GAS / CARGO ENGINEER

THE FOLLOWING COURSES ARE INCLUDED IN THE PROGRAM:

- Safety and Seamanship
- Basic Gas Tanker Operation
- Marine Refrigeration
- Marine Electro-Technology
- Hydraulics and Pneumatic Systems
- Instrumentation and PLC Systems
- Explosion Protection
- Inert Gas System
- Gas Measuring
- Workshop and Maintenance Procedures
- LPG Cargo Handling System
- Cargo Handling Module 1
- Cargo Handling Module 2
- Cargo Handling Module 3
- Cargo Handling Equipment Maintenance

PREREQUISITES

- Licensed Mechanical Engineers (5 years engineering education with work experience from relevant industries)

STRUCTURED TRAINING FOR ELECTRO TECHNICAL OFFICER (MARINA ACCREDITED)

THE FOLLOWING COURSES ARE INCLUDED IN THE PROGRAM:

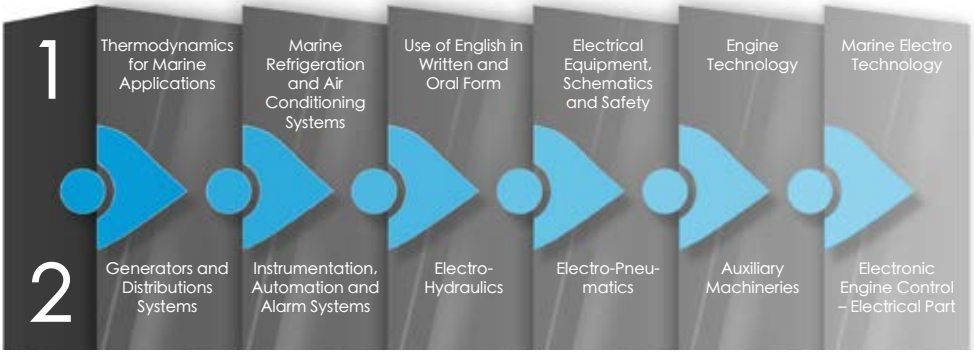
- Thermodynamics for Marine Applications
- Auxiliaries Machineries
- Engine Technology
- Marine Refrigeration and Air Conditioning Systems
- Electrical Equipment, Schematics and Safety
- Use of English in Written and Oral Form
- Ship's Communication Systems and Bridge Navigation Equipment
- Marine Electro Technology
- Generators and Distribution Systems
- Instrumentation, Automation and Alarm Systems
- Electro-Hydraulics
- Electro-Pneumatics
- Electronic Engine Control Electrical Part
- Programmable Logic Controllers with Networking
- Advance PLC and Engine Room Control Systems
- Leadership and Teamwork Skills
- Ensure Compliance with Pollution Prevention Requirements
- Electrical / Electronic Maintenance of Deck Machinery and Cargo Handling Equipment
- Explosion Protection
- Advanced Operation and Maintenance of Navigation Equipment
- Marine High Voltage
- 6.5 Months Advanced Training
- Includes Post Sea Time Assessment

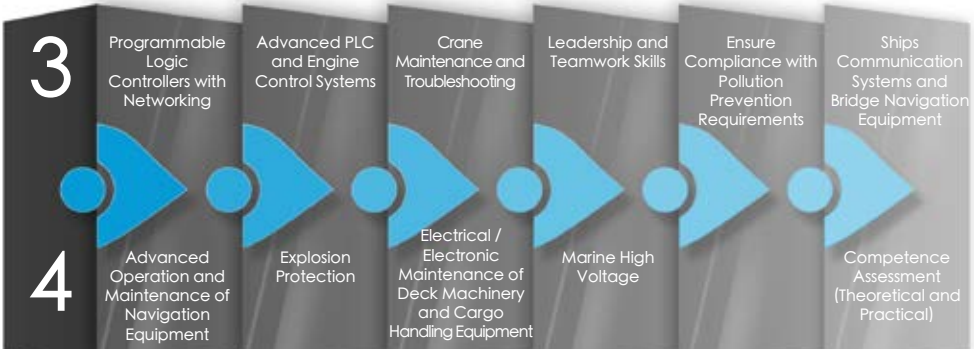
PREREQUISITES

- Licensed as Registered Electrical Engineer or Registered Electronics and Communications Engineer

STRUCTURED TRAINING FOR ELECTRO TECHNICAL OFFICER (MARINA ACCREDITED)

ETO CADET TRAINING PROGRAM FLOWCHART





POST TRAINING STEPS

STRUCTURED TRAINING FOR ELECTRO TECHNICAL RATING (MARINA ACCREDITED)

THE FOLLOWING COURSES ARE INCLUDED IN THE PROGRAM:

- Auxiliary Machinery
- Engine Technology
- Marine Electro-Technology
- Electrical Equipment, Schematics and Safety
- Generators and Distribution Systems
- Ensure Compliance with Pollution Prevention Requirements

TARGET GROUPS

Registered Master Electrician
Registered Electrical Engineer
Registered Electronics and Communications Engineer


GigaMare

CONTACT INFORMATION

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