

Yacht 1 (Y1) Engineering

Entry Requirements:

12 months service as a yacht engineer on a yacht between 500 to 3000 G.R.T. and not less than 3000 KW. Propulsion power whilst in possession of the 'Chief Engineer Certificate of Competency (Y2).

Exam Requirements:

M.C.A. Oral

- **Over 3000 KW propulsion power:** Certificate holder is required to have attended an **Approved Engine Manufacturer's Course (A.E.C.)** appropriate to the engine type, make and power range.
- **Gas Turbine Powered Yachts over 24m.**
On **ALL** yachts with gas turbine propulsion, or gas turbine propulsion in addition to diesel engine propulsion, the Chief Engineer is required to have attended an Approved Gas Turbine Manufacturer's Course appropriate to the engine type, make and power range.
- The Manning Scale for yachts with gas turbine propulsion, or gas turbine propulsion in addition to diesel engine propulsion, is identical to the Manning Table for Yachts.

Yacht 2 (Y2) Engineering

Entry Requirements:

- 24 months as a yacht engineer with 12 months sea service whilst holding a Chief Engineer Certificate of Competency (Y4) OR
- 15 months service as a yacht engineer with 9 months sea service whilst holding a Chief Engineer Certificate of Competency (Y3).

Exam Requirements:

- Completion of the yacht engineer training modules including success in the written exams.
- M.C.A. Oral Exam

NOTE: Existing uncertified yacht engineers who have not less than **5 Years yacht service including 12 months accumulated actual sea service prior to September 1,2000**, which can be verified, may be eligible to take the Chief Engineer Certificate of Competency (Y2) Examinations directly without having to take the Chief Engineer Certificate of Competency (Y4).

In addition, Candidates will be required to take the skills test module and the Chief Engineer Statutory and Operational Requirements module.

Modules to be taken :

(Note:General Engineering Science I & II are Distance Learning plus 10 Day course Combined)

General Engineering Science I

To Cover: Arithmetic
Algebra Graphs
Trigonometry Geometry
Mensuration Units
Kinematics Dynamics
Statics Friction
Machines Fluids at Rest
Strength of Materials
Transverse Stability

Applied Marine Engineering (5 Day Course)

To Cover:
Material Technology
Corrosion Control
Marine Electrical Practice
Properties of Fuels & Lubricants
Automation, Instrumentation & Control
Engine Starting Systems

General Engineering Science II

To Cover: Heat Energy
Gas Laws Combustion
Refrigeration Electric Currents
Nature of Electricity
Electric Circuits Resistance
Secondary Cells
Magnetic Fields
Electromagnetic Induction
Measuring instruments
Advanced Hotel Services (5 Day Course)

To Cover:
Refrigeration
Sewage Treatment Plants
Hydraulics
Fresh Water Systems
Air Compressors
Air Conditioning- Forced Air &
Chilled Water

Yachts 3 (Y3) Engineering

Entry Requirements:

9 Months service as a yacht engineer with 3 months sea service whilst holding a Chief Engineer Certificate of Competency (Y4).

Exam Requirements:

a): Completion of the yacht module "Chief Engineer Statutory and Operational Requirements."

b): M.C.A. Oral Exam.

- A chief Engineer holding the Chief Engineer Certificate of Competency (Y3) will not be required to retake this module if he/she subsequently wishes to obtain a Chief Engineer Certificate of Competency (Y2).

Chief Engineer Statutory & Operational Requirements module: (5 Day Course)

- Health and Safety at Work
- Pollution Control Regulations
- 'M' Notices
- International Convent
- Dry Docking Procedures
- Planned Maintenance
- Hull and Machinery Surveys
- Voyage Planning
- Fire Prevention, Explosive Mixtures & Sources of Ignition
- Ship Construction (Terminology & Stresses)
- Damage Control, Flooding & Sub- division

Yachts 4 (Y4) Engineering

Entry requirements:

- Not less than 19 years of age.
- At least 42 months service as yacht engineer or satisfactory completion of 3 years engineering craft apprenticeship, plus 2 years service as a yacht engineer.
- Six months qualifying sea service.

MODULES FOR CERTIFICATES OF COMPETENCY

Skills Test - 10 days (Apprentices exempt)

- Interpretation of Drawings
- Use and Care of Hand Tools
- Use of Measuring Equipment
- Safe Use of Portable Power Tools, Drilling Machines and Off-Hand Grinders
- Metal Joining - Welding, Brazing, Soldering
- Mechanical Joints - Gaskets, Flanges, Coupling
- Assembly Skills
- Electrical Testing and Wiring

Marine Diesel Engineering - 5 days

- (2-stroke and 4-stroke)
- To cover: Working Principles of Diesel Engines
- Constructional Details
- Operation and Maintenance
- Heat Exchangers and Cooling Systems
- Fuel Oils and Preparation
- Lubrication System
- Turbochargers

Advanced Fire Fighting - 5 days

Advanced Sea Survival - 3 days

Op. Procedures & Basic Hotel Services - 5 days

- Taking over and Accepting a Watch
- Routine Watchkeeping
- Bunkering and Anti-Pollution Procedures
- Oily Water Separator - Construction and Use
- Principles of Refrigeration
- Water Generators - Principles and Maintenance
- Keeping the Log

Auxiliary Equipment - 5 days

- Steering and Stabilizer Systems
- Pumps - Working Principles and Construction
- Valves - Types and Uses
- Generators - Construction and Use
- Shafting, Seals and Bearings
- Basic Electrical Theory and Practice
- Batteries - Maintenance and Safety
- Gearboxes & Clutches

Medical First Aid - 3 days

Examination - M.C.A. Oral

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