

## TRAINING and CERTIFICATION GUIDANCE

issued under the Commercial Vessels Regulations S.L.499.23

### Minimum Qualifications for Persons serving on Commercial Vessels operating within ports, internal and territorial waters of Malta.

Ports and Yachting Directorate - TCU



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## 1.0 Introduction

- 1.1 The document gives guidance regarding the application of the Commercial Vessels Regulations, 2002 and provides details of the certification system devised for personnel serving on board commercial vessels operating within ports, internal and territorial waters of Malta.
- 1.2 The qualification system described below is intended to:
  - enable personnel serving on board commercial vessels to obtain a certificate of competency in order that they may be able to continue with their current employment;
  - provide a system of certification for new entrants wishing to serve on these vessels;
  - where the full requirements relating to a certificate of competency are not considered practical or relevant such certificates may have operational limits than those prescribed and should have the word 'restricted' marked on them.
- 1.3 No person shall be permitted to serve on board a commercial vessel as master or crew member unless such a person is deemed to be suitably qualified.
- 1.4 Acceptable qualifications shall be those issued under the Commercial Vessels Regulations, 2002 or equivalent or higher certificates of competency and/or service issued under the Merchant Shipping (Training and Certification) Regulations 2001 or such other qualifications as may be recognised by the Authority.
- 1.5 Certificates of Competency issued under the Commercial Vessels Regulations, 2002 shall carry the endorsement "*valid for commercial vessels operating solely in territorial waters*".

## 2.0 Certificate Structure

- 2.1 The certificates of competency to be issued under this system, as detailed below, will be limited to service on commercial vessels operating between ports in and within the territorial waters of Malta.
  - **General Purpose Hand**  
Person who assists the master and engineer as a general hand in the working of the vessel.

- **Boatman**  
A dual qualification to act as master and/or engineer of vessels less than 10 metres capable of carrying 12 passengers or less.
- **Boatmaster Grade 2**  
A dual qualification to act as master and/or engineer of vessels less than 12 metres in length and with engines up to 350 kW.
- **Boatmaster Grade 1 / Mate (Restricted)**  
Master of vessels less than 24 metres in length.
- **Mate / Master (Restricted)**  
Mate on a commercial vessel of 24 metres in length and over / Master on a commercial vessel of less than 50 metres in length.
- **Master**  
Master of vessels of 50 metres in length and over.
- **Engine Driver Grade 3**  
Engineer of vessels with propulsion machinery of maximum continuous power of less than 500 kW.
- **Engine Driver Grade 2**  
Engineer of vessels with propulsion machinery of maximum continuous power of less than 750 kW.
- **Engine Driver Grade 1**  
Engineer of vessels with propulsion machinery of maximum continuous power of less than 1500 kW.
- **Engineer**  
Chief Engineer of vessels with propulsion machinery of continuous power of 1500 kW and over.

2.2 Each certificate issued is to contain details of the capacities and limitations applicable.

**3.0 Additional requirements for personnel serving on Tankers and Bunker Barges of 24 metres in length and over**

3.1 The terms “bunker barge” and “tanker” shall have the same meaning as assigned to it in the Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations, 1996.

3.2 Tankers and Bunker Barges will require any officer serving as master, mate, engine driver or engineer to have:

3.2.1 attended an approved Advanced Fire Fighting course;

3.2.2 completed an approved tanker familiarisation course; and either

3.2.3 have not less than three months service on vessels carrying the dangerous goods concerned and be familiar with safe operational practices; or

3.2.4 completed 14 days shipboard training on the vessel in a supernumerary capacity.

### **3.3 Additional requirements for Masters**

3.4 In addition to the requirements of 3.0 above, masters who wish to serve on Tankers and Bunker Barges must satisfy the following criteria:

3.4.1 Perform at least 16 port moves as follows:

- (a) 6 outbound and 6 inbound trips including 4 in darkness; and
- (b) 4 shifts from one berth to another, including 1 in darkness.

These moves are to be performed either:

- (i) as master and employing a licensed pilot; or
- (ii) assisting an authorised master.

All moves are to be equally distributed between the ports of Valletta and Marsaxlokk and are to be recorded in the appropriate Log Sheet as per Annex 7 of the Code of Practice for the Safety of Commercial Vessels.

3.4.2 Attend a familiarisation visit to the Traffic Management Unit (TMU) and Vessel Traffic Service (VTS).

3.4.3 Upon satisfying 3.4.1 and 3.4.2 above, masters have to sit for an oral examination in local knowledge in the subjects as determined from time to time by the Authority.

3.5 A person may be exempt from any, or all of the additional criteria listed from 3.4.1 to 3.4.3 above if:

3.5.1 holds a Commercial Vessel Master Certificate of Competency issued in accordance with the Commercial Vessels Regulations, and can prove appropriate experience on other vessels trading within Maltese ports and territorial waters; or

3.5.2 can prove regular and continuous service as master on a bunker barge or a tanker during the twelve months preceding the application date.

3.6 A person who at the time of the issue of this notice is already authorised and serving as master on a bunker barge or a tanker will upon application be issued with an authorisation in accordance with the condition as stipulated in this notice.

3.7 On successful completion of all the requirements of 3.4.3 above, masters will be issued with an Authorisation, which shall remain valid for a period of 5 years.

3.8 Authorisation will be renewed as long as the Master has served on a bunker barge or a tanker for at least 12 months within the validity period. Failure to comply will automatically invalidate the authorisation.

### **4.0 Additional requirements for personnel serving on board RO-RO Passenger Vessels**

4.1 The following requirements shall apply to Masters, officers and other personnel serving on ro-ro passenger vessels:

4.2 Prior to being assigned shipboard duties on board ro-ro passenger vessels all personnel shall have completed the training required by paragraphs 4.4 to 4.8 in accordance with their capacity, duties and responsibilities.

4.3 Personnel who are required to be trained in accordance with 4.4, 4.7 and 4.8 shall, at intervals not exceeding five years, undertake appropriate refresher training.

#### 4.4 **Crowd management training**

Personnel designated on muster lists to assist passengers in emergency situations on board ro-ro passenger vessels shall have completed crowd management training as specified in section A-V/2, paragraph 1 of the STCW Code.

#### 4.5 **Familiarisation training**

Masters, officers and other personnel assigned specific duties and responsibilities on board ro-ro passenger ships shall have completed familiarisation training as specified in section A-V/2, paragraph 2 of the STCW Code.

#### 4.6 **Safety training for personnel providing direct service to passengers in passenger spaces**

Personnel providing direct service to passengers in passenger spaces on board ro-ro passenger vessels shall have completed the safety training specified in section A-V/2, paragraph 3 of the STCW Code.

#### 4.7 **Passenger safety, cargo safety and hull integrity training**

Masters, officers and other personnel assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo, or closing hull openings on board ro-ro passenger ships shall have completed approved training in passenger safety, cargo safety and hull integrity as specified in section A-V/2, paragraph 4 of the STCW Code.

#### 4.8 **Crisis management and human behaviour training**

Masters, officers and other personnel having responsibility for the safety of passengers in emergency situations shall have completed approved training in crisis management and human behaviour as specified in section A-V/2, paragraph 5 of the STCW Code.

#### 5.0 **Additional requirements for personnel serving on Passenger Vessels of 24 metres in length and over other than RO-RO Vessels**

5.1 The following requirements shall apply to Masters, officers and other personnel serving on passenger vessels of 24 metres in length and over other than ro-ro passenger vessels:

5.2 Prior to being assigned shipboard duties on board passenger vessels all personnel shall have completed the training required by paragraphs 5.4 to 5.8 in accordance with their capacity, duties and responsibilities.

5.3 Personnel who are required to be trained in accordance with 5.4, 5.7 and 5.8 shall, at intervals not exceeding five years, undertake appropriate refresher training.

#### 5.4 **Crowd management training**

Personnel designated on muster lists to assist passengers in emergency situations on board passenger vessels shall have completed crowd management training as specified in section A-V/3, paragraph 1 of the STCW Code.

## 5.5 **Familiarisation training**

Masters, officers and other personnel assigned specific duties and responsibilities on board passenger ships shall have completed familiarisation training as specified in section A-V/3, paragraph 2 of the STCW Code.

## 5.6 **Safety training for personnel providing direct service to passengers in passenger spaces**

Personnel providing direct service to passengers in passenger spaces on board ro-ro passenger vessels shall have completed the safety training specified in section A-V/3, paragraph 3 of the STCW Code.

## 5.7 **Passenger safety**

Masters, officers and other personnel assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo, or closing hull openings on board passenger vessels shall have completed approved training in passenger safety as specified in section A-V/3, paragraph 4 of the STCW Code.

## 5.8 **Crisis management and human behaviour training**

Masters, officers and other personnel having responsibility for the safety of passengers in emergency situations shall have completed approved training in crisis management and human behaviour as specified in section A-V/3, paragraph 5 of the STCW Code.

## 6.0 **Additional requirements for personnel serving on board high speed craft**

6.1 The following requirements shall apply to Masters, officers and other personnel serving on board high speed craft (HSC).

6.2 Masters and officers having an operational role on HSC shall hold a valid Type Rating Certificate (TRC) as specified in the IMO HSC Code paragraph 18.3.3.

6.3 Ratings and other personnel serving on board HSC shall undergo familiarisation training.

6.4 The TRC prescribed in 6.2 shall be for the particular craft and route on which personnel are expected to serve and be revalidated at intervals not exceeding two years.

For revalidation, holders of a TRC must provide evidence of at least 3 months qualifying service in the preceding two years.

6.5 Type Rating Instructors (TRI) and Type Rating Examiners (TRE) should be suitably qualified and experienced in the operation of the craft on which they will be instructing and examining.

## 7.0 **Proficiency in survival craft, rescue boats and fast rescue boats (Vessels of 24 metres in length and over)**

7.1 Every person designated to launch or take charge of survival craft, rescue boat or fast rescue boat shall have a certificate of proficiency in such craft/boats as applicable.

## 8.0 **Qualification Criteria**

8.1 All applicants for certification must provide evidence of qualifying service on vessels of appropriate size/power, to the level of the examination to be undertaken.

- 8.2 All required evidence of service must be presented in the form of testimonials. These must be provided by responsible persons preferably holding a deck or engine certificate of competency or a person holding a managerial position within the company served.
- 8.3 The testimonial must contain a statement confirming the candidate's ability to speak, read and write in Maltese and English language. This ability will be confirmed during the examination.

## **9.0 Medical Fitness**

- 9.1 All candidates must produce a valid medical and eyesight fitness certificate as described in the Code of Practice for the Safety of Commercial Vessels indicating an acceptable level of medical fitness and that the candidate is not suffering from any disability or disease which could make it unsafe for him to be in charge of a vessel or any persons on board.

## **10.0 Ancillary training courses**

- 10.1 Every candidate must produce evidence of the prescribed ancillary training courses. It is recommended that candidates undertake all required ancillary training courses prior to attending the examination, as the fact that ancillary training has yet to be undertaken will not be accepted by the examiner as an excuse for weaknesses found to exist during the course of the examination.

Personnel serving on board commercial vessels may be required to undertake refresher training where deemed necessary.

## **11.0 Application procedure**

- 11.1 Application forms shall be obtained from authorised maritime training centres or from the Licensing and Small Ships Registration Department, Ports and Yachting Directorate of the Authority for Transport in Malta. Completed forms should be accompanied by the appropriate fee, evidence of ancillary training and medical fitness, and testimonials must be submitted to the Licensing and Small Ships Registration Department, Ports and Yachting Directorate of the Authority for Transport in Malta, attention Commercial Unit. Applicants eligible to attend the examination will be issued with a Notice of Eligibility.

## **12.0 Examination procedure**

- 12.1 Examination syllabi will be published by the Authority.
- 12.2 The examination will be conducted by an examiner appointed by the Authority.
- 12.3 Examinations consist of written, oral and practical parts as appropriate. Candidates are expected to demonstrate the ability to apply the knowledge outlined in the examination syllabus by appropriate responses and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner or the examination paper for the level of competence.

During the course of an oral examination the examiner may require certain questions to be answered in writing or by a practical demonstration. Such requirements will be restricted to those deemed necessary to establish the competence of the candidate in the subject and will not detract from the basically oral nature of the examination.

### **13.0 Certificates of Competency**

13.1 Following success at the examination, in order to obtain a certificate of competency an applicant must satisfy all additional requirements in relation to the certificate being issued:

- Age.
- Required seagoing experience.
- Medical Fitness.
- Ancillary Courses.

13.2 The results of the examination shall remain valid for a period of 12 months.

13.3 Certificates of Competency shall be valid for a period of 5 years.

13.4 Persons wishing to serve on board commercial vessels shall submit their certificate for revalidation.

For revalidation, candidates must be able to show evidence of continuing fitness for service and provide evidence of at least 12 months (which need not be continuous) qualifying service in the preceding 5 years.

### **14.0 Further information**

14.1 Further information if required is available from the Licensing and Small Ships Registration Department, Ports and Yachting Directorate of the Authority for Transport in Malta.

## Syllabus Certificate I: GENERAL PURPOSE HAND

<b>Minimum Age:</b>	17
<b>Vessel Length &amp; Power:</b>	Can crew any commercial vessel as a General Purpose Hand in accordance with the manning requirements.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite Qualifying Service:</b>	Non Required.
<b>Minimum Training required:</b>	<p>Completion of an approved training course that includes:</p> <ol style="list-style-type: none"><li>1. Elements of Shipboard Safety<ol style="list-style-type: none"><li>1.1 Fire<ul style="list-style-type: none"><li>- The theory of combustion. Methods of extinguishing fires.</li><li>- Recognising potential fire hazards. Fire prevention on board vessels.</li><li>- Practical training in the correct use of portable fire extinguishers.</li><li>- Stability considerations when using water to extinguish fires.</li><li>- Fire fighting emergencies.</li></ul></li><li>1.2 Accident Prevention<ul style="list-style-type: none"><li>- Workplace Safety.</li><li>- Working with machinery.</li><li>- Electric Shock.</li><li>- Falls, burns and scalds.</li><li>- Man overboard.</li></ul></li><li>1.3 Liferrafts &amp; Buoyant Apparatus<ul style="list-style-type: none"><li>- Launching and Boarding.</li><li>- Survival techniques.</li><li>- Helicopter pickup.</li></ul></li><li>1.4 Lifesaving Appliances<ul style="list-style-type: none"><li>- Types on board vessels.</li><li>- Their use and operation.</li><li>- Use of flares.</li><li>- Distress Signals (COLREGS Annex IV).</li></ul></li><li>1.5 First Aid<ul style="list-style-type: none"><li>- Resuscitation – DRABC, CPR, EAR, ECC.</li><li>- Identifying and treating injuries.</li><li>- Managing wounds and bleeding.</li><li>- Managing bone, joint and muscle injuries.</li><li>- Managing burns.</li><li>- Hypothermia and treatment.</li></ul></li></ol></li></ol>



## **2. Practical Seamanship**

- Line handling and the operation of deck machinery during mooring and docking.
- Tasks as a member of a navigation watch including steering, acting as lookout and monitoring the operation of equipment.
- Knots bends and hitches. Making an eye splice and back splice in fibre rope.
- Carrying out operating checks on main and auxiliary machinery and assisting in routine maintenance.
- Acting as a member of the deck crew to assist in anchor work on board a commercial vessel.
- Securing galley and accommodation spaces for sea and maintaining hygiene standards at sea.
- Prevention of pollution of the marine environment.

## **3. Occupational Health and Safety**

- How to identify hazardous situations in the workplace.
- Applying OH&S principles in relation to own responsibilities onboard a commercial vessel operating in local waters.

## **4. Workplace communication**

- Gather, record and convey simple information.
- Give and follow simple and routine instructions.
- Participate in small informal work groups.
- Deal with clients about simple routine matters.

## Syllabus Certificate II: BOATMAN

<b>Minimum Age:</b>	18
<b>Vessel Length &amp; Power:</b>	Dual qualification to act as Master and/or Engineer of vessels less than 10 metres, capable of carrying 12 passengers or less.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite Qualifying Service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 12 months appropriate service.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	<p>Completion of an approved training course followed by an Oral and Practical examination on:</p> <ol style="list-style-type: none"><li><b>1. Nautical Knowledge</b><ul style="list-style-type: none"><li>- Manoeuvring a vessel of less than 10 metres in length in various weather conditions.</li><li>- Common nautical terms.</li><li>- Dealing with emergency situations involving the safety of the vessel and those on board or the safety of others.</li><li>- Safety equipment on board a vessel and the survey requirements.</li><li>- Assess forecast and actual weather conditions to determine actions for the safe operation of the vessel.</li><li>- International Regulations for Preventing Collisions at Sea. - IALA Region A Buoyage system.</li><li>- Local regulations effecting the operation of small craft.</li><li>- Structural components used in the construction of small vessels of different materials.</li><li>- Rope maintenance. Eye splice and Back splice, common knots, bends and hitches used on board small vessels.</li><li>- Use a compass and take compass bearings.</li><li>- Apply basic navigational techniques to ensure the safe navigation of a small vessel in local waters.</li><li>- Knowledge of symbols and abbreviations shown on navigational charts of the Maltese Islands.</li><li>- Knowledge of the coasts of the Maltese Islands, water depths, navigational hazards and restricted areas.</li><li>- Distress Signals.</li><li>- Prevention of pollution of the Marine Environment.</li></ul></li><li><b>2. Occupational Health &amp; Safety</b><ul style="list-style-type: none"><li>- Recognition of potential fire hazards.</li><li>- Use and maintenance of lifesaving appliances carried on board.</li><li>- Apply OH&amp;S principles in relation to own responsibilities on board a small vessel.</li></ul></li></ol>

### **3. Engineering**

- Operation and user maintenance of inboard and outboard marine propulsion engines and other auxiliary equipment normally installed on boats of less than 10 metres.

**Other requirements:** In addition the applicant must be in possession of:

1. A current approved First Aid Certificate.

**To qualify:** Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.

## Syllabus Certificate III: BOATMASTER GRADE 2

<b>Minimum Age:</b>	18
<b>Vessel Length &amp; Power:</b>	Dual qualification to act as Master and/or Engineer of vessels less than 12 metres in length and with engines up to 350 kW.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite Qualifying Service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 12 months appropriate service.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	Completion of an approved training course followed by an Oral and Practical examination on:

### 1. Nautical Knowledge

- Manoeuvring a vessel of less than 12 metres in length in various weather conditions.
- Nautical Terms.
- Dealing with emergency situations involving the safety of the vessel and those on board or the safety of others.
- Safety equipment on board a vessel and the survey requirements.
- Assess forecast and actual weather conditions to determine actions for the safe operation of the vessel.
- International Regulations for Preventing Collisions at Sea.
- IALA Region A Buoyage system.
- Local regulations effecting the operation of small craft.
- Structural components used in the construction of small vessels of different materials.
- Rope maintenance. Eye splice and Back splice, common knots, bends and hitches used on board small vessels.
- Use a compass and take compass bearings.
- Apply basic navigational techniques to ensure the safe navigation of a small vessel in local waters.
- Knowledge of symbols and abbreviations shown on navigational charts of the Maltese Islands.
- Knowledge of the coasts of the Maltese Islands, water depths, navigational hazards and restricted areas.
- Distress Signals.
- Prevention of pollution of the Marine Environment.

### 2. Writing Skills

- Learn effective writing and strategies to write simple work related documents.

### **3. Occupational Health & Safety**

- Recognition of potential fire hazards.
- Use of lifesaving appliances carried on board.
- Application of OH&S principles in relation to own responsibilities on board a small commercial vessel operating in local waters.

### **4. Engineering**

- Operating inboard and outboard marine propulsion engines of less than 350 kW.
- Operation and user maintenance of low voltage DC electrical systems in small vessels.
- Operation and user maintenance of auxiliary equipment on board small vessel.
- Prevention of fire and explosion when operating systems and equipment.

### **5. Communication**

- Operate VHF marine radio equipment to transmit and receive messages relating to routine and emergency traffic.
- Ability to carry out user maintenance and fault finding procedures to ensure correct operation of radio equipment and associated power supply.
- Operate an EPIRB and a SART.

**Other requirements:** In addition the applicant must be in possession of:

1. A marine radio operator certificate relevant to the radio equipment installed on board the vessel on which candidate intends to serve.
2. A current approved First Aid Certificate.
3. An approved Fire Prevention and Fire Fighting certificate.

**To qualify:** Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.

## Syllabus Certificate IV: BOATMASTER GRADE 1

<b>Minimum Age:</b>	19
<b>Vessel Length &amp; Power:</b>	<p>Qualification to serve as Master on a commercial vessel of less than 24 metres in length.</p> <p>This certificate does not include an engineering qualification. Applicants who intend to act as both Master and Engineer on a vessel of 12 metres to less than 24 metres will need to hold an appropriate Engine Driver certificate.</p> <p>Holders of such a COC having a minimum of 12 months sea time as master on vessels of 12 metres in length and above, may apply for an endorsement to serve as Mate on a commercial vessel of less than 50 metres in length. Other additional requirements as applicable.</p>
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 24 months appropriate service.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	<p>Completion of an approved training course followed by an Oral and Practical examination on:</p> <ol style="list-style-type: none"><li><b>1. Coastal Navigation</b><ul style="list-style-type: none"><li>- Interpret the information found on a navigational chart and allow for the variation and deviation of a compass.</li><li>- Plan a safe route and plot your position on a navigational chart.</li></ul></li><li><b>2. Ship Knowledge</b><ul style="list-style-type: none"><li>- Identify parts of a vessel and explain their function.</li><li>- Maintain the watertight integrity of a vessel and operate fuel, freshwater &amp; bilge systems.</li><li>- Operation of steering systems and emergency steering systems.</li><li>- Maintenance and survey requirements for different types of hulls.</li><li>- Interpretation and application of Stability Information available on board.</li></ul></li><li><b>3. Radar &amp; Navigational Aids</b><ul style="list-style-type: none"><li>- Operate and interpret a small vessel radar display and use in conjunction with navigational charts to fix and monitor the vessel's position.</li><li>- Use of radar as an aid in collision avoidance.</li><li>- Operation of Wheelhouse equipment including GPS, depth (echo) sounder, magnetic compasses, gyro and autopilot, alarm systems.</li></ul></li><li><b>4. Work Team Communication</b><ul style="list-style-type: none"><li>- Communication skills.</li><li>- Participate in small discussion groups to reach agreement on a workplace issue.</li><li>- Ability to make job related presentations and to co-operate with team members to plan and prepare it.</li></ul></li></ol>

## **5. Marine Radio Telephone Operation**

- Operate marine radio telephone equipment within the guidelines for ship station operators to transmit and receive messages relating to routine and emergency traffic.
- User maintenance and fault finding procedures to ensure the correct operation of the radio equipment and associated power supply.
- Operate an EPIRB and a SART.

## **6. Nautical Knowledge**

- Nautical Terms.
- Regulations and Codes applicable to small vessels.
- Interpret meteorological information, radio reports and observations.
- Procedures for keeping a safe navigational watch on board a small vessel.
- Manoeuvre a vessel of less than 24 meters in routine and emergency situations. Use of anchors.
- Dealing with emergency situations involving the safety of the vessel and those on board or the safety of others.
- International Regulations for Preventing Collisions at Sea.
- IALA Region A Buoyage system.
- International Code of Signals. Recognition and meaning of the single flags.
- Use and care of Distress Signals.
- Pollution prevention in port and at sea. Measures to be taken to prevent pollution during bunkering.
- Waste Management. Garbage Plans.

## **7. Occupational Health and Safety**

- Recognise potential fire hazards.
- Use of lifesaving appliances carried on board.
- Survival techniques.
- Apply OH&S principles in relation to own responsibilities on board a small commercial vessel operating in local water.

**Other requirements:** In addition the applicant must be in possession of:

1. A marine radio operator certificate relevant to the radio equipment installed on board the vessel on which candidate intends to serve.
2. A current approved first aid certificate.
3. An approved Fire Prevention and Fire Fighting certificate.

**To qualify:** Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.

## Syllabus Certificate V: MATE / MASTER (Restricted)

<b>Minimum Age:</b>	20
<b>Vessel Length &amp; Power:</b>	Qualification to serve as Mate on a commercial vessel of 24 metres in length and over / Master on a commercial vessel of less than 50 metres in length.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 24 months appropriate service.</li><li>2. Be in possession of a Boatmaster Grade 1 Certificate.</li></ol>
<b>Minimum Training required:</b>	Completed of an approved training course and upon successfully passing the <b>WRITTEN</b> and <b>ORAL</b> examinations on:

### **Paper 1 – Duration 3 hours, Pass mark 60%**

#### **Chartwork and Passage Planning**

The candidates are expected to plan a safe passage using the chart and publications available and to demonstrate sound knowledge of the following:

- Passage planning using Admiralty publications and Notices to Mariners.
- Symbols and abbreviations, depths and height contours, recognition of buoys, lights and range of visibility, use of leading lights, transits and light sectors, sounding lines.
- Identify suitable anchorages, depths and nature of bottom.
- Correct compass courses using applicable variation and deviation.
- Weather information available to shipping and application of same during passage planning.

### **Paper 2 – Duration 3 hours, Pass mark 60%**

#### **Part 1 - Navigation Safety**

Candidates are expected to display knowledge of maintaining a safe navigational watch

- A thorough knowledge of the principles to be observed in keeping a Navigational Watch and the content and application of the International Collision Regulations (COLREGS)
- The principles of keeping a safe navigational watch at sea, including watchkeeping at anchor and in port and the application of the Bridge procedures Guide.
- Use and limitations of navigational aids.
- Use of safety checklists.
- Navigation during emergencies.
- Operate interpret and analyse information from radar and other navigational aids, including collision avoidance in restricted visibility.



## **Part 2 - Shipboard Operations**

Candidates are expected to have a sound knowledge of the following:

### **1. Operational safety**

- Preparation for heavy weather. Watertight integrity of vessel. Operations in heavy weather.
- Use and care of deck appliances and fittings; bilge and cargo (tanker) pumping arrangements.
- Organisation of emergency drills (fire, abandon ship etc.).
- Precautions to be taken to prevent marine pollution; garbage management plans.
- Dangerous goods and environmentally harmful cargoes and their effect on the safety of life, the vessel and the environment.
- Actions to be instigated in response to pollution incidents on board and encountered at sea.
- Prevention of pollution during bunkering and STS transfers.
- Dangers and hazards associated with enclosed spaces; precautions for entry and hotwork; general related terms and definitions
- Dealing with security on board vessels. Security plans measures and procedures to protect persons, vessel and cargo from risks of a security incident.

### **2. Stability**

- Contents of the stability information booklet.
- General definitions and terms related to vessel's stability.
- Effect of trim and list/heel on vessel's stability.
- Danger of slack tanks and effects of free surface.
- Securing against downflooding.
- Preparation and precautions in relation to dry-docking and undocking.
- Planning, stowage and securing of cargoes.

### **3. Legislation**

- Relevant provisions of port and shipping related legislation such as:
  - o Ports Regulations.
  - o Commercial Vessels Regulations.
  - o Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations.
  - o Berthing Regulations.
  - o Port reception Facilities for Ship-generated Wastes and Cargo Residues Regulations.
  - o Vessel Traffic Monitoring and Reporting Requirements Regulations.
  - o Ports and Shipping Act.
- Port Notices, Merchant Shipping Notices, Notices to Mariners, Navigational warnings etc.
- Accident reporting and reporting dangers to navigation.
- Health and Safety legislation including on board Safe Working Practices.
- Permit to work procedures and safe access to enclosed spaces.
- Safe manning requirements.
- Certificate of Registry and its legal significance.
- Certificates and survey requirements for commercial vessels.
- Master's duties, obligations and liabilities in relation to record keeping and reporting. Entries and maintenance of logbooks including accident reports.

- Scope and application of the International Safety Management (ISM) Code and required certification.
- Use and application of the International Maritime Dangerous Goods (IMDG) Code.
- Different certificates required on board vessels.

**ORAL examination syllabus:**

**1. Maintain a Safe Navigational Watch**

- The significance and requirement of chart corrections
- A thorough knowledge of the content, application and intent of the International Regulations for the Prevention of Collisions at Sea (COLREG) and of those Annexes to it concerned with safe navigation during the hours of daylight, darkness and in restricted visibility. Candidates will not be placed in a position to handle a sailing craft, but will be expected to recognise the lights carried by such craft and to have knowledge of her possible manoeuvres according to the direction of wind.
- IALA Maritime buoyage – Region A
- Demonstrate the use of an Azimuth mirror (terrestrial bearings only).
- Describe compasses commonly fitted on board ships; variation and deviation, causes and effects.
- Basic precautions to be taken with the Automatic Pilot.
- Describe steering control systems, operational procedures and change-over from manual to automatic and vice versa.
- The International Code of Signals – recognition and knowledge of the meaning of the single flag signals.
- Display knowledge of the use of Navigational Aids and their limitation.

**2. Ship Handling and Manoeuvring**

- Helm orders, the effect of propellers on the steering of the ship, turn Short Round, bringing a ship to a single anchor in an emergency.
- Knowledge of factors affecting safe manoeuvring and handling, proper procedures for anchoring and mooring, berthing and unberthing under various conditions of wind and current.
- Action in the event of failure of bridge control, engine telegraph, steering, and describe typical emergency steering arrangements.
- Knowledge of towing procedures and arrangements. Tug use in port. Towage terminology and safe working methods.
- Knowledge of Interaction and squat on ships in general.

### **3. Emergency Response**

#### **Respond to navigational emergencies:**

- Initial action to be taken following man overboard, collision, grounding or flooding and protection of the marine environment.
- Assisting a vessel in distress, the use and care of distress rockets and line-throwing rocket apparatus carried on board.
- Action to be taken when in distress, the use of distress signals and awareness of penalties for misuse.
- Use of the IMO Merchant Ship Search and Rescue (MERSAR) Manual (candidates to be aware of the main provisions contained in the International Aeronautical and Maritime Search and Rescue (IAMSAR) manual, Volume III).

#### **Respond to other emergencies:**

- Fire prevention: the use and care of fire-fighting appliances; shut-downs and isolation for plant and equipment; escape and breathing apparatus, fire and safety plans.
- Action to be taken to prevent the spread of fire.
- The use and care of life-saving appliances and equipment including portable radios, EPIRBs and SARTs.
- The operation of survival craft, rescue boats and emergency disembarkation equipment.

### **4. On Board Operations**

#### **Compliance with Pollution Prevention Requirements:**

- Precaution to be taken to protect the marine environment, including Garbage and Sewage Management Plans.
- Appropriate actions to be taken in response to pollution incidents on board and at sea.
- Measures to be taken to prevent pollution during bunkering operations, including checklists. Layout of fuel tanks and transfer arrangements.

### **5. Any other item covered in the written examination syllabus.**

**Other requirements:** In addition the applicant must be in possession of:

1. Proficiency in Basic Safety Training Certificate (STCW VI/1)
2. Proficiency in Survival Craft and Rescue Boats (STCW A-VI/2).
3. Training in Advanced Fire Fighting (STCW A-VI/3).
4. Medical First Aid (STCW A-VI/4-1).
5. GMDSS Restricted Operators Certificate (ROC).

**To qualify:** Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.

## Syllabus Certificate VI: MASTER

<b>Minimum Age:</b>	22
<b>Vessel Length &amp; Power:</b>	Qualification to serve as Master on a commercial vessel of 50 metres in length and over.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 24 months appropriate service.</li><li>2. Be in possession of a Mate Certificate of Competency</li></ol>
<b>Minimum Training required:</b>	Completion of an approved training course followed by an <b>ORAL</b> examination on: <ol style="list-style-type: none"><li><b>1. Maintain a Safe Navigational Watch</b><ul style="list-style-type: none"><li>- A thorough knowledge of the content, application and intent of the International Regulations for the Prevention of Collisions at Sea (COLREG) and of those Annexes to it concerned with safe navigation during the hours of daylight, darkness and in restricted visibility. Candidates will not be placed in a position to handle a sailing craft, but will be expected to recognise the lights carried by such craft and to have knowledge of her possible manoeuvres according to the direction of wind.</li><li>- IALA Maritime buoyage – Region A</li></ul></li><li><b>2. Ship Handling and Manoeuvring</b><ul style="list-style-type: none"><li>- A thorough knowledge of how to handle vessels, berthing and unberthing, turning short round.</li><li>- Use of anchors, preparation for anchoring with a single anchor, use of second anchor, mooring.</li><li>- Dry-docking, procedures and preparation for entering or leaving a dry-dock.</li><li>- Common types of propulsion and manoeuvring arrangements including twin screws and thrusters.</li><li>- Manoeuvring to launch survival craft in bad weather.</li><li>- Towing: the danger of girting, and being towed.</li><li>- The effects of interaction and squat on ships in general; excessive speed and the effect of wash in confined waters.</li></ul></li></ol>

### **3. Emergency Response**

- Initial action following man overboard, collision, grounding, flooding or major mechanical damage, additional measures to be taken to protect the marine environment.
- Action to be taken when vessel is in distress and disabled; abandon ship and survival procedures.
- Use and care of distress signals.
- Beaching a vessel.
- Emergency towing arrangements.
- Fire prevention, the use and care of fire-fighting appliances, including shut-down and isolation of plant and equipment, escape and breathing apparatus, fire and safety plans.
- Action to be taken, to prevent the spread of fire.
- Use and care of the life saving appliances and equipment, including portable radios, EPIRBs, SARTs.
- Operation of survival craft and rescue boats in heavy weather.
- Use of training manuals.

### **4. On Board Operations**

- Precautions to be taken to prevent pollution of the marine environment, including Garbage Management Plans.
- Master's duties, obligations and liabilities, including the keeping of records.
- Actions to be instigated in response to pollution incidents on board and encountered at sea.
- Measures to be taken to prevent pollution during bunkering.

### **5. Any other item covered in the written and oral examination syllabus for MATE.**

**Other requirements:**

In addition the applicant must be in possession of:

1. Proficiency in Basic Safety Training Certificate (STCW VI/1)
2. Proficiency in Survival Craft and Rescue Boats (STCW A-VI/2).
3. Training in Advanced Fire Fighting (STCW A-VI/3).
4. Medical First Aid (STCW A-VI/4-1).
5. GMDSS Restricted Operators Certificate (ROC).

**To qualify:**

Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.

## Syllabus Certificate VII: ENGINE DRIVER GRADE 3

<b>Minimum Age:</b>	18
<b>Vessel Length &amp; Power:</b>	Qualification to serve as Engine Driver on a commercial vessel of less than 500 KW.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 6 months appropriate service on vessels of not less than 75 kW.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	<p>Completion of an approved training course followed by an Oral and Practical examination on:</p> <ol style="list-style-type: none"><li>1. Marine internal combustion engines and their fittings, shafting and propellers.</li><li>2. Preparing, start up and shutdown procedures for main propulsion and auxiliary machinery.</li><li>3. Precautions necessary for the prevention of fire and explosion, including the use of petrol and LP gas.</li><li>4. Action to be taken in the event of fire or explosion, including the use of fire fighting appliances. Machinery space fire-fighting arrangements.</li><li>5. Cooling water and fuel systems, bilge pumping arrangements, including precautions against back-flooding.</li><li>6. Care of electrical systems including batteries. Safety precautions when working on low and medium voltage A.C. and D.C. systems. Fuses and circuit breakers.</li><li>7. Steering gear and deck machinery.</li><li>8. Fuel consumption; estimation and calculation.</li><li>9. Location and rectification of common faults in main machinery, steering systems and auxiliary equipment.</li><li>10. Precautions to prevent environmental pollution.</li></ol>
<b>Other requirements:</b>	<p>In addition the applicant must be in possession of:</p> <ol style="list-style-type: none"><li>1. A current approved First Aid Certificate.</li><li>2. An approved Fire Prevention and Fire Fighting certificate.</li></ol>
<b>To qualify:</b>	<p>Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:</p> <ol style="list-style-type: none"><li>1. Completed application form.</li><li>2. Proof of Medical Fitness.</li><li>3. Proof of identity and age.</li><li>4. Proof of completing successfully the training and examination referred to above.</li><li>5. 2 colour passport size photographs.</li><li>6. Pay prescribed fees.</li></ol>

## Syllabus Certificate VIII: Engine Driver Grade 2

<b>Minimum Age</b>	18
<b>Vessel Length &amp; Power:</b>	Qualification to serve as Engine Driver on a commercial vessel of less than 750 KW.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 6 months appropriate service on vessels of not less than 150 kW.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	<p>Completion of an approved training course followed by an Oral and Practical examination on:</p> <ol style="list-style-type: none"><li>1. Operation and maintenance of marine internal combustion engines.</li><li>2. Care and operation of lubricating oil and cooling systems.</li><li>3. Pumps and arrangements of bilge and seawater piping systems. Dangers associated with back flooding.</li><li>4. Steering gears, hydraulic systems and associated pipeline. Emergency steering arrangement.</li><li>5. Arrangement of fuel oil piping systems and filters. Fuel tank ventilation, filling and draining. Tank gauging; effect of slack tanks on stability.</li><li>6. Oil and grease lubrication.</li><li>7. Care of electrical systems and batteries. Series and parallel operation. Safety procedures when working on low and medium voltage A.C. and D.C. systems; protection devices.</li><li>8. Dangers of LP gas and liquid fuels; refrigeration safety.</li><li>9. Precautions against fire and explosion. Methods of dealing with fires; extinguishers, fire pumps, fire mains and hoses, nozzles and sprays, fixed installations, closing appliances, remote shut-offs.</li><li>10. Items for inspection on slipway or dry-dock.</li><li>11. Planned maintenance.</li><li>12. Location and rectification of common faults in main machinery, steering systems and auxiliary equipment.</li><li>13. Preparing for sea. Start up and shut down procedures.</li><li>14. Calculation dealing with consumption of fuel. Speed and range of vessels.</li><li>15. Precautions to be observed to prevent environmental pollution.</li></ol>
<b>Other requirements:</b>	<p>In addition the applicant must be in possession of:</p> <ol style="list-style-type: none"><li>1. A current approved First Aid Certificate.</li><li>2. An approved Fire Prevention and Fire Fighting certificate.</li></ol>
<b>To qualify:</b>	<p>Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:</p> <ol style="list-style-type: none"><li>1. Completed application form.</li><li>2. Proof of Medical Fitness.</li><li>3. Proof of identity and age.</li><li>4. Proof of completing successfully the training and examination referred to above.</li><li>5. 2 colour passport size photographs.</li><li>6. Pay prescribed fees.</li></ol>

## Syllabus Certificate IX: ENGINE DRIVER GRADE 1

<b>Minimum Age:</b>	19
<b>Vessel Length &amp; Power:</b>	Qualification to serve as Engine Driver on a commercial vessel of less than 1500 kW.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 24 months appropriate service on vessels of not less than 200 kW. The Authority may consider a reduction in approved service where the applicant either holds a relevant qualification or has training or experience considered appropriate.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	<p>Completion of an approved training course followed by an Oral and Written examination on:</p> <p><b>Applied Mathematics and Physics (including calculations):</b></p> <ol style="list-style-type: none"><li>1. Consumption of oil and fuel.</li><li>2. Area and circumference of circle.</li><li>3. Volumes of rectangular and circular cross-section tanks.</li><li>4. Speed and range of vessels.</li><li>5. Weights and measures.</li><li>6. Conversion and fractions to decimals.</li><li>7. Simple levers.</li><li>8. Load, stress on bolts, factor of safety.</li></ol> <p><b>Engineering Knowledge</b></p> <ol style="list-style-type: none"><li>1. Knowledge of the general arrangement of commercial vessels, watertight integrity.</li><li>2. Operation and maintenance of marine internal combustion engines.</li><li>3. Operation and maintenance of auxiliary machinery systems, including steering gear and refrigeration systems.</li><li>4. Operation, testing and maintenance of electrical and control equipment.</li><li>5. Maintenance of deck equipment and machinery.</li><li>6. Detection of machinery malfunctions and repair procedures.</li><li>7. Organisation of safe maintenance and repair procedures.</li><li>8. Understanding the effect of free surface on the stability of vessel.</li><li>9. Fire prevention, detection and extinction systems.</li><li>10. Knowledge, care and maintenance of safety and survival equipment found on board vessels.</li><li>11. Regulations and procedures to be observed regarding operational or accidental pollution of the marine environment and methods and aids to prevent such pollution.</li><li>12. Function and use of life saving appliances.</li><li>13. Dealing with emergencies in machinery spaces.</li><li>14. Damage control. Action to be taken in the event of flooding.</li><li>15. Knowledge of safe working practices.</li><li>16. Working knowledge and application of the Code of Practice for the Safety of Commercial Vessels including survey and certification requirements.</li><li>17. Routine duties relating to engine room watch keeping.</li><li>18. Compilation of Machinery space logbook and record keeping.</li></ol>



**Other requirements:** In addition the applicant must be in possession of:

1. Proficiency in Basic Safety Training Certificate (STCW VI/1)
2. Medical First Aid Certificate (STCW A-VI/4-1).
3. Advanced Fire Fighting Certificate (STCW A-VI/3).
4. Personal Safety & Social Responsibility Certificate (STCW A-VI/1-4).

**To qualify:** Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.

## Syllabus Certificate X: ENGINEER

<b>Minimum Age:</b>	20
<b>Vessel Length &amp; Power:</b>	Qualification to serve as Chief Engineer on a commercial vessel with propulsion of 1500 kW and over.
<b>Operating Limits:</b>	Within ports, internal and territorial waters of Malta.
<b>Prerequisite qualifying service:</b>	<ol style="list-style-type: none"><li>1. Applicant must have at least 24 months appropriate service on vessels of not less than 400 kW. The Authority may consider a reduction in approved service where the applicant either holds a relevant qualification or has training or experience considered appropriate.</li><li>2. Be in possession of a General Purpose Hand Certificate.</li></ol>
<b>Minimum Training required:</b>	<p>Completion of an approved training course followed by an Oral and Written examination on:</p> <p><b>Applied Mathematics and Physics (including calculations):</b></p> <ol style="list-style-type: none"><li>1. Application of areas and volumes to problems such as the weight of engine parts.</li><li>2. Force as a vector, triangle of forces.</li><li>3. Coefficient of friction, friction losses in simple slides.</li><li>4. Velocity ratio, mechanical advantage and efficiency of simple machines, levers, blocks, screw and hydraulic jacks.</li><li>5. Direct stress, shear stress, elasticity, working stress, factor of safety.</li><li>6. Circumferential and longitudinal stress in thin cylinders and spherical shells.</li><li>7. Equilibrium of floating bodies.</li><li>8. Linear expansion.</li><li>9. Heat units, specific heat capacity.</li><li>10. Engine power and torque.</li><li>11. Heat value of fuel, fuel consumption and engine power.</li><li>12. Relationship between vessel speed and fuel consumption.</li></ol> <p><b>Engineering Knowledge</b></p> <ol style="list-style-type: none"><li>1. Machinery Operations and Records:<ul style="list-style-type: none"><li>- Awareness of the records maintained on board vessels to verify operational efficiency, including the use of the engine log book, oil record book, pumping of bilges, safety inspection check lists, permit to work forms.</li><li>- Knowledge of the contents of the Code of Practice for the Safety of Commercial Vessels.</li><li>- Role of surveyors, classification societies, surveys and certification.</li><li>- Planned maintenance procedures for machinery and equipment on board commercial vessels, relating particularly to maintaining operating efficiency by filter changes and cleaning; the significance of pressure drop in systems and the potential danger of damage to rotating machinery.</li><li>- Ability to monitor machinery condition by comparing log records; the use of correct procedures when starting engines and ancillary equipment; the need for routine surveillance of the engine room, including knowledge of the correct operating pressures and temperatures under normal working conditions; instrumentation commonly installed to indicate condition of machinery and systems;</li></ul></li></ol>

procedure for reporting defects.

- Type of machinery to be found on board the vessel concerned; operating cycle of main engine, lubrication, safety devices fitted to engines or equipment subject to high pressures; fuel injection arrangements and methods of speed control; combustion air supply to the engine, routine maintenance required to ensure the efficiency and power is maintained.
- Types of propulsion systems commonly found on vessels and main differences between the types; steering arrangements and systems; backup systems, emergency operation arrangements and change over procedures.
- Fuel supply and tank contents in relation to consumption.
- Stopping and shutting down machinery, procedure for isolating cooling water systems.
- Common causes of performance variation in diesel engines, causes of emergency shutdown of machinery, communication and recording of events and defects; how to rectify defects including safety considerations.

## 2. Maintenance of Engines and Machinery:

- Knowledge of the maintenance schedule on board vessels.
- Understand precautions to be taken when repairing machinery; dangers of ignition and explosion; work permit procedures.
- Working knowledge of machinery assemblies, air compressors, hydraulic pumps, fuel injectors, filters, valves, valves, coolers; use of correct tools, understanding torque, jointing and good fitting practice.

## 3. Electrical Knowledge:

- Understand precautions to be taken when maintaining or repairing electrical plant.
- Basic knowledge of electrical distribution systems onboard vessels including meaning of units Amperes, Volts, Ohms, Hertz and Kilowatts. Electrical circuits and Ohms' Law. Calculation of electrical power given a network and applied voltage. Reverse current protection, earth monitoring systems.
- Knowledge of switchboard operations and information given.
- Electrical safety.
- Knowledge of safety devices found in electrical systems i.e. use of breakers, fuses, isolating switches; awareness of dangers of automatic start up systems, reverse current protection.
- Power supply, starting generators, synchronisation and load sharing arrangements; battery charging and emergency 24 volt supply arrangements; ability to describe what systems receive a supply from the 24 volt circuit, what occurs in the event of a black out, testing of batteries, and typical "dead ship" first start arrangements.

## **Emergency Response**

- Methods of isolating fuel supply to the engines, quick closing valves.
- Emergency stops for machinery and closing down of machinery spaces to stop the spread of fire; fixed fire fighting installations.
- Fire fighting equipment available on board vessels including activation and use of equipment.

- Actions to be taken to minimise flooding in the event of damage to the hull in way of engine room.

### **Routine Operations**

#### 1. Compliance with Pollution Prevention Requirements:

- Restrictions on pumping bilges. Operational and legislative requirements.
- Requirements relating to the oil record book, oily water separators.
- Fuel bunkering procedures including requirements to prevent oil spills. Layout of fuel tanks and transfer arrangements.
- Sewage treatment and disposal.

#### 2. Seaworthiness:

- Knowledge of the general arrangement of vessels, tank arrangement, machinery spaces, propulsion systems and steering arrangements on board the vessel concerned.
- Watertight integrity; maintenance of deck openings, bulkheads and doors.
- Tank venting arrangements, vent pipes and closing mechanisms.
- Knowledge of the effect of pressure caused by a head of liquid or a vacuum on tanks, valves and pipes.
- Knowledge of the effect of free surface on the stability of the vessel.

#### 3. Personnel Safety:

- Emergency signals and muster alarms; communications with engine room and wheelhouse.
- Identification of hazards and areas of risk in machinery spaces on board vessels; Causes of fires in engine room, precautions to minimise fire risk.
- Safety and survival equipment carried on board vessels; location, maintenance and proper use.
- Operating manuals, instructions and manuals commonly used on board. Code of Practice for the safety of commercial vessels; Safe working practices.
- Accident reporting procedures. Corrective and preventive action to be taken.
- Permit to work procedures; procedure for entering enclosed and associated dangers including oxygen depletion, noxious gases and explosive mixtures.
- Working knowledge of lifting plant and equipment; understanding of safe working loads, certification of equipment and records of proof testing.
- Outline knowledge of the International Safety Management (ISM) Code.

**Other requirements:** In addition the applicant must be in possession of:

1. Proficiency in Basic Safety Training Certificate (STCW VI/1)
2. Medical First Aid Certificate (STCW A-VI/4-1).
3. Advanced Fire Fighting Certificate (STCW A-VI/3).
4. Personal Safety & Social Responsibility Certificate (STCW A-VI/1-4).

**To qualify:**

Produce to the Authority for Transport in Malta – Ports and Yachting Directorate - the following:

1. Completed application form.
2. Proof of Medical Fitness.
3. Proof of identity and age.
4. Proof of completing successfully the training and examination referred to above.
5. 2 colour passport size photographs.
6. Pay prescribed fees.