

# Education plan for certificate of competency in sailing for yachtsmen

Version 1.1

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## 1. Purpose

The purpose of this education plan is to establish the Danish Maritime Authority's requirements for acquiring a *certificate of competency in sailing for yachtsmen*.

## 2. Application/scope

The education plan is used at navigation, skipper and nautical schools as well as by persons who have been authorised to hold tests for certificates of competency in sailing for yachtsmen.

## 3. Basis/References

1. Act on the manning of ships, act no. 15 of 13 January 1997.
2. Order no. 473 of 29 May 2006 on the qualification requirements for seafarers and on certificates of competency issued by the Danish Maritime Authority.
3. Order no. 184 of 26 March 1999 on tests for certificates of competency, etc. issued by the Danish Maritime Authority.
4. Order no. 232 of 22 March 2006 on education and training requirements for masters of certain motor-driven recreational craft with a hull length below 15 metres issued by the Danish Maritime Authority (the speedboat order).

## 4. General provisions

### 4.1 Test for certificate of competency in sailing for yachtsmen

At the test for certificate of competency in sailing for yachtsmen, specific knowledge of the following subjects must be demonstrated at a theoretical and a practical training test:

#### Theory:

- a) Regulations for preventing collisions at sea
- b) Navigation
- c) Maritime safety
- d) Fire-prevention and fire-fighting on board small craft
- e) Protection of the marine environment

#### Practical training:

- a) Knowledge of the craft
- b) Steering and manoeuvring a small craft
- c) The machinery of recreational craft.

### 4.2 Test for masters of certain motor-driven recreational craft with a hull length below 15 metres (speedboats)

Persons who have passed the test for masters of certain motor-driven recreational craft are also considered to have passed the practical sub-test for the test for certificate of competency in sailing for yachtsmen.

Persons who have passed only the practical sub-test for the test for certificate of competency in sailing for yachtsmen are not considered to have passed the test for masters of certain motor-driven recreational craft.

## **5. Taking the test**

The test for certificate of competency in sailing for yachtsmen is taken in the presence of persons who have been authorised by the Danish Maritime Authority to hold the test and arrange for the issue of documentation of having passed the test by means of subsequent electronic information of the Danish Maritime Authority.

Those authorised cannot hold a test for persons who have prepared themselves for the test (or for a sub-test).

An overview of authorised external examiners is available from the webpage of the Danish Maritime Authority.

### **5.1 Documentation of passed test**

Documentation of having passed a test is issued by the Danish Maritime Authority following electronic information provided by the authorised external examiner.

A passed sub-test will be recorded electronically in the Danish Maritime Authority's database on yachtsmen.

A certificate of having passed a test for certificate of competency in sailing for yachtsmen will be issued when both sub-tests for the certificate of competency in sailing for yachtsmen have been passed.

### **5.2 Certificate of competency**

The certificate of competency in sailing for yachtsmen (certificate of competency) will be issued free of charge by the Danish Maritime Authority upon presentation of documentation of having passed the test for certificate of competency and a valid vision and hearing certificate for yachtsmen.

### **5.3 Payment for taking a test**

In addition to payment for a certificate of competency/speedboat licence, the one authorised can require a maximum of DKK 110.00 per candidate per theoretical test and DKK 160.00 per practical training test as well as an amount for covering any transport costs.

### **5.4 Notification of test**

The one authorised must notify the holding of tests via the electronic yachtsmen system. Depending on the circumstances, the Danish Maritime Authority or the supervisor within the area can reject an authorised person appointed for a specific test.

The notification must be completed no later than 14 days before the date of the test and must contain information about:

- a) which test is to be held,
- b) the time and place of the test,
- c) who will hold the test as the authorised person,

- d) the number of persons who will be taking the test.

The notification of tests later than 14 days before the date of the test cannot be expected to be recognised. Immediately after the holding of a test, the one authorised must electronically report the civil registration number (CPR) and names of the candidates who have passed the test.

### **5.5 Re-examination**

Candidates who do not pass a sub-test can sit for a re-examination at the earliest 14 days later.

## **6. Authorisation to hold the test for certificate of competency in sailing for yachtsmen and the test for masters of certain motor-driven recreational craft**

The Danish Maritime Authority will authorise a suitable number of persons to hold tests for certificate of competency in sailing for yachtsmen and tests for masters of certain motor-driven recreational craft.

Normally, persons who request authorisation to hold these tests must:

- a) at least have passed the yacht master exam, 3<sup>rd</sup> class,
- b) be or have been an active yachtsman,
- c) either previously have been authorised or have taught lessons for the test for certificate of competency in sailing for yachtsmen for at least two seasons.

Anyone authorised must, for his or her own account, attend the information meetings arranged by the Danish Maritime Authority with the purpose of creating a homogeneous level of the contents and holding of tests.

Applications for authorisation, which are granted for a period of up to two years, must be submitted no later than by 30 November in the year prior to the period for which authorisation is applied to:

THE DANISH MARITIME AUTHORITY  
Carl Jacobsens Vej 31  
DK-2500 Valby  
Telephone: +45 91 37 60 00

The application should be recommended by a yachting or motorboat club, an adult education association or another teaching institution with knowledge about the applicant's qualifications. A form for applications for initial authorisation must be required from the Danish Maritime Authority.

## **7. Requirements for a test for certificate of competency in sailing for yachtsmen**

### **Theoretical part**

The theoretical part of a test for certificate of competency in sailing for yachtsmen can be held partly as a written test, but **must** include an individual oral examination in the regulations for preventing collisions at sea.

The teacher should attend the test as the examiner. The one holding the test as the authorised person will draw up the assignments for the written test and approve the questions for the oral examination before the start of the test.

The theoretical test includes the following:

- 1) Regulations for preventing collisions at sea
- 2) Terrestrial navigation
- 3) Maritime safety
- 4) Fire-prevention and fire-fighting on board small craft
- 5) Protection of the marine environment

### **7.1 Regulations for preventing collisions at sea**

The candidate must be familiar with the contents of the most recent version of the "Regulations for preventing collisions at sea".

In addition to being familiar with the general provisions of section I of the regulations for preventing collisions at sea, the candidate must:

- be able to identify various types of ships on the basis of the lights and day signals carried,
- be able to account for how to establish whether there is a risk of colliding with any ships observed by means of repeated bearings,
- if there is a risk of collision, be able to decide which ship has the duty to keep clear and indicate how one's own ship should act,
- be able to account for the measures to be taken in reduced visibility,
- be able to identify the sound signals for various types of ships in different situations,
- be able to account for navigation in narrow fairways as well as in and in the vicinity of traffic separation areas,
- be aware that there are special regulations for navigation in inner Danish waters, under bridges, in ports, etc. and where information about these regulations are available,
- know the distress signals.

Furthermore, the candidate must be able to account for the requirements for appropriate lookout stipulated in the regulations for preventing collisions at sea, for the master's responsibility, as well as for the general provisions on watchkeeping on board ships. These are, inter alia, associated with the following subjects:

- Proper manning,
- an appropriately outfitted craft, including the importance of correct lights,
- navigation in the vicinity of high-speed craft, densely trafficked areas, etc.,
- alcohol, euphorians and deadening medicine,
- the obligation to assist other vessel and persons in distress.

### **7.2 Terrestrial navigation**

The candidate must be able to account for the following:

- The division of the compass, the concepts of ship's heading, variation and deviation, course through the water and course over the ground,
- the correlation between time, speed and distance,
- the concepts of speed/distance through the water and over the ground, the log, the lead,
- reckoning,
- the contents and use of charts,
- aids to navigation according to IALA system A,
- the concept of position lines and the terrestrial position lines: mark, bearing and distance,

- position-fixing by means of simultaneous lines of position,
- position-fixing by means of GPS navigator, incl. correction for chart Datum,
- voyage planning by means of waypoints.

The candidate must be familiar with the use of the following publications:

- The Yearbook of Fishing, the "Port Pilot" (*Havnelodsen*), the "Danish pilot" (*Den danske lods*) and chart 1.

Furthermore, the candidate must be able to account for how to retrieve information about the weather forecast for the relevant sea area.

### **7.3 Maritime safety**

The candidate must be familiar with:

- the use of personal life-saving appliances (lifejacket, lifeline, etc.),
- the use of collective life-saving appliances (raft),
- the importance of avoiding hypothermia,
- the wrapping up of a frostbitten person,
- the organisation of the maritime rescue service in Denmark and adjoining waters,
- measures to prevent unnecessary search operations,
- the contents of the brochures issued by the Danish Pleasure Craft Safety Board,
- how to call assistance, both by telephone and over the radio.

### **7.4 Fire-prevention and fire-fighting on board small craft**

The candidate must be familiar with:

- prevention of fire in the craft's fuel,
- prevention of fire in the craft's other technical installations,
- the danger of smoking in the berth,
- the use of fire-extinguishing equipment appropriate for small craft.

### **7.5 Protection of the marine environment**

The candidate must be familiar with the regulations for protecting the marine environment (oil leakages, garbage, grey and black bilge water, chemicals, etc.) and with the preservation regulations.

### **Remarks**

Prior to the test, the following should have been demonstrated to the candidate:

- various types of lifejackets, incl. inflatable ones,
- a liferaft,
- the use of fire blankets,
- the use of portable fire-extinguishers (water, powder, CO<sub>2</sub>).

## **Practical training**

The practical training part of the test for certificate of competency in sailing for yachtsmen begins with rigging the boat and subsequently manoeuvring out of the harbour. The test is held at sea and ends again at the craft's berth. The crew required to sail the boat must be on board, but the person taking the test (the candidate) is the master of the craft during the test.

The practical training test includes:

- Knowledge of the craft
- Steering and manoeuvring a small craft
- The machinery of recreational craft.

### **7.6 Knowledge of the craft**

Before the craft leaves its berth, the candidate must demonstrate knowledge of its design and equipment that allows him/her to undertake preparations for sailing. In this connection, the candidate must ensure:

- that the craft is ready to sail,
- that the safety equipment is in place and in working order,
- that the sails and/or motor are ready for use,
- that all those on board have adequate personal safety equipment and are familiar with its use, and
- that the crewmembers are aware of their role during the voyage.

The candidate must have knowledge of commonly used knots and hitches. This is demonstrated by applying the correct knots and hitches to the mooring lines, halyard, sheet, etc. in any situation that may occur. Furthermore, the candidate must be able to account for the use of the safety equipment.

### **7.7 Steering and manoeuvring a small craft**

The candidate must be able to:

- depart from and dock at a wharf or bridge with piles,
- steer by compass and landmarks,
- steer through marks arranged in a line,
- take into account of the effects of the current and the wind on the voyage,
- carry out a man-over-board manoeuvre in accordance with the following guidelines:

The candidate throws out the "man-over-board buoy" (MOB buoy). At the same time, a warning is given: "Lifebuoy over board". Emphasis must be placed on the candidate displaying an independent initiative and doing the following:

- As quickly as possible, a lifebuoy is thrown out to the MOB buoy. It is possible just to indicate this action.
- A lookout after the buoy is established.
- Equipment for catching and picking up a person who has fallen over board is prepared (line, any mooring line, etc., but NOT a boat hook).
- A manoeuvre is made to get quite close to the buoy and to lie still next to it for as long as it would realistically take to get a line around the person who has fallen over board. The buoy must **not** be sailed into or picked up by means of a boat hook.

The candidate must also be able to account for how to take an unconscious person on board the craft used for the test by means of the crew at hand minus one person.

If the test is taken on board a sailboat, the candidate must also demonstrate knowledge of:

- the setting, taking down and reefing of sails,
- the trimming of sails under both close-hauled and broad reach sailing,
- tacking and jibing.

The candidate must know common maritime expressions such as starboard, port, bow, stern, windward and leeward, etc. and be able to account for:

- how to secure a towing line to/from another ship on board one's own craft,
- how to use the anchor and sea anchor,
- the limitations of the craft in adverse weather,
- how individuals' location on board is important to safe navigation, especially in adverse weather,
- the importance of paying attention to different dangers when sailing, such as nets, drift nets, drift-wood,
- precautions for wind gusts,
- the weather forecast at the time of the test in the waters where the test is held.

## **7.8 The machinery of recreational craft**

The candidate must demonstrate knowledge of:

- How to measure the amount of fuel on board, and how to calculate the sailing range in different circumstances,
- the engine's fuel delivery system and ignition system. For diesel engines, the candidate must be able to account for the venting of the fuel system.
- the engine's lubrication oil supply and how to supplement it,
- control of the engine's cooling system.

The candidate must be able to:

- start and stop the engine,
- switch between forward, reverse and neutral gears,
- regulate the engine power (revolutions/increase),
- emergency stop the motor.

If the remainder of the test is exclusively held under sail, the craft in which the motor part of the test is held does not need to leave the dock.

## **Remarks**

The candidate must complete the entire test in compliance with the Regulations for preventing collisions at sea, including a special focus on watchkeeping, proper lookout and give way provisions.

Furthermore, the candidate must possess knowledge of the curriculum from the theoretical test, including maritime rescue, fire-prevention and fire-fighting, and protection of the marine environment, based on, for example, the brochures issued by the Danish Pleasure Craft Safety Board.

## **8. Framework for the practical test**

### **8.1 The craft**

The test must be held on board a craft meeting the following conditions:

- The waterline length must be at least 4.5 m.
- The hull length must be less than 15 m.
- The engine power must be at least 3.5 kW (4.5 hp). However, the candidate can choose to take the test in a craft without an engine. In this case, the part of the test relating to recreational craft machinery must be taken in another craft, which is, however, not required to meet the water line requirement of at least 4.5 m. The engine can be an outboard motor.
- The craft must be equipped with a compass that can be seen from the steering position and which is suitable for navigation.
- The craft must otherwise be of such a design and size that it would, in the opinion of the examiner, place reasonable great requirements on the candidate for mastering general manoeuvring principles.

If the craft in which the test takes place has both sails and motor, the person taking the test decides which means of propulsion to use during the test, for example so that manoeuvring outside the harbour is done under sails, while harbour manoeuvres are done with the engine.

The choice of means of propulsion during the test must, however, be in harmony with the boat's entire character. For example, a small keelboat with an outboard motor should be prepared for sailing, while a large sailboat with a large built-in diesel engine can undertake harbour manoeuvres with the engine and manoeuvre outside the harbour under sail. If the test takes place in a sailing boat with a motor installation, the knowledge of the recreational craft machinery must be demonstrated on board the test craft.

If necessary, the candidate must make a craft available for the test.

### **8.2 Man-over-board (MOB) buoy**

A MOB buoy must be brought along for the test. For the test, the design of this buoy is unrestricted, but it must be able to float low in the water.

It is recommended that the manoeuvre is also practised with an item similar in size and weight to a person lying in the water so that the candidate is also trained in the rescue of an unconscious person. This can, for example, have the form of a "stuffed" boiler suit wearing a lifejacket.

### **8.3 The weather during the test**

The weather conditions during the test must be such that the place reasonable requirements on the candidate. Thus, wind forces below approximately 4 m/s usually will not be sufficient, just as wind forces of 12-14 m/s will normally be a reason for postponing the test.

### **Remarks**

The craft, motor and MOB buoy must be approved by the person authorised before the test begins.

## **11 Audits**

The Danish Maritime Authority performs audits of the tests.

Audits are made at random, and the auditors are responsible for ensuring that the tests are held in accordance with the guidelines provided and, if necessary, for guiding those authorised as regards these guidelines.

If, during an audit, the auditor finds that the test deviates in major respects from the guidelines provided, the person concerned must inform the person(s) holding the test how the holding of the test can be brought in compliance with the guidelines provides.

If the person(s) holding the test will not accept the assessment made by the auditor, the auditor is entitled to interrupt the test. The auditor will, as soon as possible, forward a report to the Danish Maritime Authority accounting for the conditions that have led to the interruption of the test. On the basis of this report, the Danish Maritime Authority will decide what to be done.

The auditor will be issued with an ID card with a photo issued by the Danish Maritime Authority.