

**-SQA-SCOTTISH QUALIFICATIONS AUTHORITY**

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**NATIONAL CERTIFICATE MODULE DESCRIPTOR**

**-Module Number- 0068611 -Session-1986-87**

**-Superclass- XQ**

**-Title- SMALL BOATS: POWERED (x 1/2)**

**-DESCRIPTION-**

Type and Purpose A general module (1/2) which enables the student to develop the knowledge and skills necessary to take charge of a small powered boat.

Preferred Entry Level 08610 Introduction to Small Boats  
A useful complementary study would be:  
08617 Basic Meteorology and International Regulations for Preventing Collisions at Sea

Learning Outcomes The student should:

1. know the various hull forms used in powered boats and the inherent characteristics of each;
2. carry out basic hull and fitting maintenance;
3. know, and carry out basic checks on, different types of engine used in small powered boats;
4. handle a boat under power, including berthing, unberthing and man-overboard procedures.

Content/ Context With reference to learning outcome:

1. (a) Hull forms: displacement type, hard chine, deep - V, stepped hull, inflatable type, multi-hull.  
(b) Displacement/planing hull form:  
(i) simple idea of wave patterns and maximum displacement speed;

- (ii) estimation of speed from transverse wave length;
  - (iii) meaning of 'planing'.
2. Hull and fitting maintenance: knowledge of prime areas of deterioration, precautions to avoid rot, use of paints and compositions for hull protection, cure for damaged areas, checking and adjustment of steering mechanism, minor repairs to wood and/or GRP, and/or metal fittings and part of hull.
3. (a) Knowledge of a variety of engine types:
- (i) diesel) two stroke and four stroke;
  - (ii) petrol)
  - (iii) outboard;
  - (iv) Z-drives.
- (b) Operation of outboard engines: mounting, starting, operating and stopping.
- (c) Operation of inboard engines: starting, operating and stopping.
- (d) Checks on engines before use: lubricating oil, sufficiency of fuel.
- (e) Basic fault diagnosis: sufficient fuel? damp plugs? damp electrics? compression? broken connections?
4. (a) Handling boat under power: steering, berthing and unberthing, mooring to buoy and unmooring.
- (b) Man-overboard drill: standard manoeuvres to return to victim, methods of recovering victim into boat.

Suggested  
Learning and  
Teaching  
Approaches

Active learning and teaching approaches should be used throughout, with work in boats forming the basis of learning.

Films, videos, diagrams and models should be used as extensively as possible to support practical work.

Films and video should be used to stimulate discussion, not simply to convey information.

The importance of safety should be emphasised throughout.

**Assessment  
Procedures**

Learning outcome 1 should be assessed by a series of oral questions, involving actual hulls or pictures of hulls. Recognition of a hull form, with a brief description of its characteristics, should be expected. Satisfactory performance will be the recognition and description of four hull forms. Testing should take place no later than 2/3 of the way through the module to allow time for remediation and retesting. The tutor must exercise his/her professional judgement on the student's ability to communicate.

Checklists should be used for formative assessment of learning outcomes 2, 3 and 4. The student should be kept informed of progress throughout and remedial tuition should be provided in a suitable form when appropriate. Learning outcomes 2, 3 and 4 should be summatively assessed by the following checklists. A tick or cross should be used to record satisfactory/unsatisfactory performance. Satisfactory performance in all items of each checklist on two occasions should be considered as adequate evidence that the student has achieved the learning outcomes.

**Learning outcome 2****Checklist**

The student correctly:

1. identifies prime areas of deterioration;
2. selects appropriate paint or composition;
3. applies appropriate paint or composition;
4. checks steering mechanism;
5. adjusts steering mechanism;
6. identifies hull or fitting in need of repair;
7. selects appropriate material for repair;
8. applies material.

**Learning outcome 3****Checklist**

The student correctly:

1. recognises type of engine;
2. mounts outboard engine;
3. carries out pre-use checks;
4. starts engine;
5. operates engine at varying speeds;
6. stops engine;
7. carries out basic fault diagnosis.

Learning outcome 4

Checklist

The student, to an acceptable standard:

1. unberths boat;
2. berths boat;
3. steers boat between a number of fixed points;
4. carries out man-overboard procedures;
5. moors to a buoy;
6. unmoors from a buoy.