



WARSASH  
MARITIME ACADEMY

# TRAINING SCHEMES FOR OFFICER CADETS

Academic year 2010/2011



Southampton  
**SOLENT**  
University

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# **1. GENERAL INTRODUCTION**

## **1.1 WARSASH MARITIME ACADEMY**

Merchant Navy officers have been trained at Warsash Maritime Academy (WMA) for over sixty years and our attractive waterside campus is equipped to provide professional and vocational maritime training that meets all the current national and international standards.

The campus is located in the village of Warsash on the east bank of the river Hamble, overlooking Southampton Water. The cities of Southampton and Portsmouth are within close reach and London is easily accessible by road and rail, thus enabling our students to take advantage of an extensive range of activities and entertainment in this southern region.

WMA is part of Southampton Solent University, which is based in the centre of Southampton and provides a wide range of degree and other courses. Officer Cadets and other students enrolled on courses at WMA are able to take advantage of the facilities and services offered by the University.

In addition to the teaching facilities, our campus offers a refectory, accommodation blocks with approximately 240 beds in single and twin-bedded rooms, licensed coffee bar, TV lounges, fitness suite, sports hall and water sports facilities. University staff members supervise the pastoral care and discipline of all Officer Cadets as well as organising off campus visits and other activities.

WMA is dedicated to the training of seafarers and, with its range of training and recreational facilities, is ideally placed to give students the best possible start to their careers in the international shipping industry.

## **1.2 CAREERS IN THE INTERNATIONAL SHIPPING INDUSTRY**

Seafaring offers a stimulating, fulfilling and well paid career for men and women who enjoy the associated challenges and responsibility, and who want more from a career than the usual 'nine to five' routine. A career at sea brings with it a wealth of opportunity, providing individuals with the training and experience for a lifetime of rewarding challenges, which in the longer term can be continued either at sea or ashore.

While many will aspire to reach the ranks of Captain or Chief Engineer aboard ship, others may decide later on to move ashore and pursue one of the many opportunities available to experienced ship's officers in the international shipping industry or elsewhere (e.g. shipping management, port management, ship broking, maritime law, surveying etc.)

Britain is a major force in the international shipping industry and commercial shipping is a significant contributor to the economy of this country. British officers with UK MCA certificates of competency enjoy a very good reputation in the industry throughout the world, which greatly increases future job opportunities. Technical and managerial skills learned at sea are readily transferable and can be developed by further training.

### **1.3 THE MERCHANT NAVY - A brief introduction**

The Merchant Navy is the name given to the international commercial shipping industry. It is made up of a large number of shipping companies who recruit their own Officer Cadets. Merchant seafarers, both officers and ratings, are civilians employed by these companies.

Companies vary greatly in the size of ships, types of ships and areas of the world where they operate. Types of modern merchant ship include container ships, cruise liners, oil tankers, gas tankers, chemical carriers, bulk carriers, cable layers, Ro/Ro ferries, car carriers, oil-rig supply vessels and general purpose cargo ships. Their trade routes may take them to every continent and across every ocean on the globe.

On board ship there are three main operational departments. The Deck Department is staffed by Navigating Officers while the Engineering Department is staffed by Marine Engineering Officers, which may also include Electro-Technical Officers. The third is the Catering or Hotel Department, which provides the crew and any passengers with catering and domestic services.

Officer Cadet entry is restricted to the Deck and Engineering Departments. Catering and Hotel staff are normally recruited from applicants who have already obtained suitable qualifications ashore.

### **1.4 PERSONAL QUALITIES - what makes a successful ship's officer?**

A successful ship's officer requires particular personal qualities in order to cope with the demands of the profession. He or she will spend several months at a time away from home living in close proximity with other crew members. The ability to cope with the stresses of separation whilst exercising tolerance towards others on the ship is therefore essential.

Young officers must be able to accept a higher level of responsibility than would be expected at a similar age in most other professions and possess the leadership qualities necessary to direct the work of others, often under difficult circumstances. Self-reliance, self discipline, initiative and the ability to work as part of a team are also required as are the commercial awareness and management skills demanded by a competitive modern industry.

## **1.5 THE MARITIME AND COASTGUARD AGENCY**

The Maritime and Coastguard Agency (MCA), part of the Department for Transport, is the government agency responsible for issuing navigation and engineer officers' certificates of competency. The MCA also ensures compliance with international standards of training and professional conduct in consultation with other national and international authorities.

## **1.6 THE ROLES OF NAVIGATION (DECK), MARINE ENGINEERING and ELECTRO-TECHNICAL OFFICERS**

### **Navigation (Deck) Officers**

Navigation Officers maintain watches on the bridge at sea and about the ship in port. They are responsible for passage planning, the safe navigation of the ship, cargo loading and discharge, ship stability, communications and the maintenance of the hull and deck equipment.

The ship's Captain, or Master, is in overall command with ultimate responsibility for the safety of the crew, ship, cargo and environment. Only Navigation Officers can be promoted to the rank of Master.

### **Marine Engineering Officers**

Marine Engineering Officers are responsible for the maintenance and operation of the ship's main propulsion machinery and auxiliary plant, including deck machinery, air conditioning plants, refrigeration plants, and domestic and electrical services. Depending on the type of ship and operational circumstances, Engineer Officers will be required to keep watches in the ship's Engine Room.

The Chief Engineer Officer is in charge of the department and is responsible to the ship's Master for its efficient operation. Whilst the law demands that only one person can be in overall command of the ship and by tradition that person is the Master, the Chief Engineer Officer's status and salary is very similar to that enjoyed by the Master.

### **Electro-Technical Officers (ETOs)**

These specialist officers work within the Engineering Department where they take particular responsibility for the maintenance of on board control engineering and electronic systems including propulsion control, radio communications and electronic navigation aids.

Electro-Technical Officers (ETOs) may have the opportunity to develop their careers along a similar path to that of Engineer Officers, perhaps leading to the rank of Chief Engineer Officer.

## 1.7 NATIONALITY

British shipping companies will normally only recruit British or European Union nationals. However, the MCA certificates of competency may be awarded to people of any nationality and the training programmes are open to all.

## 1.8 OFFICER CADET PROGRAMMES OFFERED BY WMA

WMA offers 3-year or 3½-year Officer Cadet training programmes approved by the Merchant Navy Training Board (MNTB), which lead to professional certification by the MCA and either a Degree qualification or a Higher National Diploma (HND).

Officer Cadets following the Degree route will initially achieve professional certification by the MCA and a Foundation Degree in either Marine Operations (Deck Cadets) or Marine Engineering (Engine & ETO Cadets). Successful candidates will then have the opportunity to top-up their academic qualification to an Honours Degree, achieving either a BSc(Hons) in Marine Operations Management (Deck Cadets) or a BEng(Hons) in Marine Engineering and Management.

Officer Cadets following the HND route will initially achieve professional certification by the MCA and an HND in either Nautical Science (Deck Cadets) or Marine Engineering (Engine & ETO Cadets). With additional professional experience, successful candidates will also have the opportunity to top-up their academic qualification to an Honours Degree, achieving either a BSc(Hons) in Marine Operations Management (Deck Cadets) or a BEng(Hons) in Marine Engineering and Management (Engine & ETO Cadets).

After gaining initial MCA certification, junior officers prepare for the higher certificates of competency, leading finally to a Chief Engineer or Master Mariner's Certificate of Competency, by a combination of sea service and Academy based training. Promotion to senior officer rank depends on merit rather than simply the possession of a senior certificate.

***Officer Cadets need the sponsorship of a shipping company or training agency in order to obtain the required sea experience.***

Comprehensive information on each of our training programmes is contained in the following sections of this document.

1.9 ENTRY CRITERIA FOR WMA ACADEMIC PROGRAMMES

| PROGRAMME  | ENTRY REQUIREMENTS  |
|--|---|
| <b>Deck Cadets</b>   |   |
| <p><b>Foundation Degree in Marine Operations, with top-up to BSc(Hons) in Marine Operations Management</b></p>   | <p>A minimum of 120 UCAS tariff points, preferably including a numerate subject,<br/> <b>Plus</b> GCSE grade 'C' or above in the following subjects:</p> <ul style="list-style-type: none"> <li>• Mathematics (preferably Higher Tier)</li> <li>• English</li> <li>• Science (with Physical Science content)</li> </ul>   |
| <p><b>HND in Nautical Science</b></p> <p>Students will be required to complete an HE Entry course at WMA prior to commencing the HND. Entry requirements for the induction course are as indicated.</p> <p>Successful completion of a full HND may facilitate later top-up to <b>BSc(Hons) in Marine Operations Management</b>.</p>        | <p><b>Either:</b></p> <p>i. 4 GCSE's, Grade C or above including:</p> <ul style="list-style-type: none"> <li>• Mathematics</li> <li>• Science (with Physical Science content)</li> <li>• English or a subject using English (i.e. History, geography, RE)</li> </ul> <p><b>or</b></p> <p>ii. Passes in 4 subjects in the Scottish Certificate of Education as in i. above.</p> <p><b>or</b></p> <p>iii. Passes in 4 subjects in the Irish Leaving Certificate as in i. above.</p> |
| <b>Engine/ETO Cadets</b>   |   |
| <p><b>Foundation Degree in Marine Engineering, with top-up to BEng(Hons) in Marine Engineering and Management</b></p>  | <p>A minimum of 120 UCAS tariff points, including a numerate subject,<br/> <b>Plus</b> GCSE grade 'C' or above in the following subjects:</p> <ul style="list-style-type: none"> <li>• Mathematics (preferably Higher Tier)</li> <li>• English</li> <li>• Science (with Physical Science content)</li> </ul>  |
| <p><b>HND in Marine Engineering</b></p> <p>Students will be required to complete an HE Entry course at WMA prior to commencing the HND. Entry requirements for the induction course are as indicated.</p> <p>Successful completion of a full HND may facilitate later top-up to <b>BEng(Hons) in Marine Engineering and Management</b></p> | <p><b>Either:</b></p> <p>i. 4 GCSE's, Grade C or above including:</p> <ul style="list-style-type: none"> <li>• Mathematics</li> <li>• Science (with Physical Science content)</li> <li>• English or a subject using English (i.e. History, geography, RE)</li> </ul> <p><b>or</b></p> <p>ii. Passes in 4 subjects in the Scottish Certificate of Education as in i. above.</p> <p><b>or</b></p> <p>iii. Passes in 4 subjects in the Irish Leaving Certificate as in i. above.</p> |

## 1.10 UCAS TARIFF FOR ACCESS TO DEGREE COURSES

The UCAS tariff, listing all FE qualifications, can be downloaded via a link from:

[http://www.ucas.ac.uk/students/ucas\\_tariff/tariff/tables/](http://www.ucas.ac.uk/students/ucas_tariff/tariff/tables/)

A précis of the document covering the most common FE qualifications is as follows:

| UCAS Points | GCE A Level | GCE AS Level | Scottish Higher | BTEC Nationals (Award) | Key Skills |
|-------------|-------------|--------------|-----------------|------------------------|------------|
| 120         | Grade A     |              |                 | Distinction            |            |
| 100         | Grade B     |              |                 |                        |            |
| 80          | Grade C     |              |                 | Merit                  |            |
| 72          |             |              | Grade A         |                        |            |
| 60          | Grade D     | Grade A      | Grade B         |                        |            |
| 50          |             | Grade B      |                 |                        |            |
| 48          |             |              | Grade C         |                        |            |
| 42          |             |              | Grade D         |                        |            |
| 40          | Grade E     | Grade C      |                 | Pass                   |            |
| 30          |             | Grade D      |                 |                        | Level 4    |
| 20          |             | Grade E      |                 |                        | Level 3    |
| 10          |             |              |                 |                        | Level 2    |

The 120 UCAS points required for WMA's maritime Foundation Degrees can be made up of any combination of qualifications. No UCAS credit is given for GCSEs but Foundation Degree students will be required to hold GCSE Mathematics (minimum Grade C, preferably Higher Tier Syllabus), English and a GCSE science with a significant content of Physical Science.

## 1.11 MEDICAL REQUIREMENTS

Officer Cadets must have good health and be capable of passing the Merchant Navy Medical Examination (ENG1). Navigating Officer Cadets must also have normal colour vision and be able to pass the MCA Sight Test, although corrective lenses may be acceptable in some cases. Anybody contemplating a career as a ship's officer would be well advised to take a medical examination and sight test as soon as possible to find out if there are any physical bars to their career aspirations.

## 1.12 COURSE STRUCTURES

Each Officer Cadet programme consists of a number of training phases, alternating between phases at the Academy and phases at sea aboard one of the shipping company's vessels.

At the Academy, Officer Cadets will develop the academic underpinning knowledge (UPK) required for professional certification by the MCA, and also undertake specific safety courses required by international convention (STCW '95). While aboard ship, Officer Cadets will gain practical shipboard experience and develop their operational competency as watchkeeping officers.

In addition to their academic studies, Officer Cadets must undertake a number of safety and survival courses during their cadetship. These include the following:

- Personal Survival Techniques (PST)
- Personal Social and Safety Responsibilities (PSSR)
- Basic Fire Fighting (BFF)
- Elementary First Aid (EFA)
- Medical First Aid aboard Ship (MFA)
- Certificate of Proficiency in Survival Craft & Rescue Boats (CPSC & RB)
- Advanced Firefighting (AFF)

In addition, Deck Cadets must complete the following courses:

- Efficient Deck Hand (EDH)
- Global Maritime Distress & Safety System General Operator's Certificate (GMDSS)
- Navigation, Radar & ARPA Simulation Training: Operational Level (NARAS O).

## 2. NAVIGATING (DECK) OFFICERS

### 2.1 DEGREE PROGRAMME

| ACADEMY PHASE  | DURATION  | CONTENT   |
|--|-----------|---|
| Induction  | 3 weeks   | Freshers week / General induction to shipping industry<br>Assessment for entry to Degree programme<br>Intro to EDH / STCW short courses - PST, BFF, EFA, PSSR   |
| Phase 1  | 15 weeks  | Foundation Degree (FdSc) units:<br>Maritime Analytical Methods<br>Navigation<br>Ship Operations   |
| Phase 2<br>(At Sea)  | 35 weeks  | Work Based Learning (Operations Level)<br>MNTB Deck Training Record Book  |
| Phase 3  | 30 weeks  | Foundation Degree (FdSc) units:<br>Meteorology<br>Cargo Operations<br>Voyage Planning<br>Shipboard Management<br>Marine Operations<br>Command Management<br>NARAS(O) preparation/assessment   |
| Phase 4<br>(At Sea)  | 47 weeks  | Work Based Learning (Management Level)<br>MNTB Deck Training Record Book  |
| Phase 5<br>Part 1  | 5 weeks   | <i>Consolidation of Work Based Learning and any outstanding academic assessments prior to the award of:</i><br><br><b><i>Foundation Degree (FdSc) in Marine Operations</i></b>  |
| Phase 5<br>Part 2  | 10 weeks  | STCW short courses: AFF, EDH, MFA, GMDSS, NARAS(O), PSC&RB<br>MCA Orals Preparation<br><br><i>Successful completion of MCA Oral examination leads to award of the initial MCA Certificate of Competency and end of cadetship.</i>   |
| Phase 6<br>(Optional)<br>Top up to<br>BSc (Hons)<br>Degree                                 | 11 weeks  | Bachelor of Science (BSc) Honours degree units:<br>Project<br>Maritime Technology<br>Optional Units (2 of 4):<br>Safety Management<br>Financial Management<br>Mercantile Law<br>Curriculum Plus   |
| Phase 7<br>(At sea/on leave)<br>(Optional)<br>Blended Learning<br>with<br>Tutorial Support | 10 months | Complete self-study elements of Maritime Technology and two Optional Units undertaken.<br><br>Complete Project - Up to 18 months to complete<br><br><i>Successful completion of all units leads to the award of:</i><br><br><b><i>BSc (Hons) Degree in Marine Operations Management</i></b> |

## 2.2 HND PROGRAMME

| ACADEMY PHASE       | DURATION   | CONTENT  |
|---------------------|--|--|
| Phase 1             | 16 weeks   | <p>Freshers week and general induction to shipping industry</p> <p>HE Entry Course, including Academic Study Skills, Mathematics Foundation and introductions to Navigation, General Ship Knowledge and Ship &amp; Port Operations</p> <p><i>Successful completion of the HE Entry Course leads to the award of:</i></p> <p style="text-align: center;"><b><i>National Certificate of Further Education (NcFE)</i></b></p> <p>Intro to EDH &amp; PSC&amp;RB / STCW short courses - PST, BFF, EFA, PSSR</p>   |
| Phase 2<br>(At Sea) | 36 weeks   | <p>MNTB Training Record Book</p> <p>Guided Studies (HND Level 1 preparation)</p>   |
| Phase 3             | 28 weeks   | <p>HND Level 1 units (STCW II/1 UPK)</p> <ul style="list-style-type: none"> <li>Navigation</li> <li>Passage Planning</li> <li>Watchkeeping and Communications</li> <li>Ship Construction, Cargo and Stability</li> <li>Law and Management</li> </ul> <p>Preparation for SQA examinations</p> <p>NARAS(O) preparation/assessment</p>  |
| Phase 4<br>(At Sea) | 48 weeks   | <p>MNTB Training Record Book</p> <p>Guided Studies (HND Level 2 &amp; MCA Orals preparation)</p>   |
| Phase 5             | <p>17 weeks for completion of OOW CoC</p> <p style="text-align: center;">+</p> <p>26 weeks for completion of HND Part 2 (academic exemptions to Chief Mate &amp; Master level)</p> | <p>STCW short courses: AFF, EDH, MFA, GMDSS, NARAS(O), PSC&amp;RB</p> <p>Preparation for SQA/MCA written and oral examinations</p> <p><i>Successful completion of HND Level 1 units, SQA/MCA written and oral examinations and STCW short courses leads to the award of the initial <b>MCA Certificate of Competency</b> and end of cadetship.</i></p> <p>HND Level 2 units (STCW II/2 UPK)</p> <ul style="list-style-type: none"> <li>Command Passage Planning</li> <li>Advanced Ship Stability and Construction</li> <li>Cargo and Port operations</li> <li>Law and Management for Mates and Masters</li> <li>Bridge and Engineering Systems</li> </ul> <p><i>Successful completion of all HND academic assessments at the required pass rates provides full academic exemptions to Chief Mate/Master level and leads to the award of <b>Higher National Diploma (HND)</b></i></p> <p><i>Candidates who successfully achieve a full HND should later be eligible to top-up the academic award to:</i></p> <p style="text-align: center;"><b><i>BSc (Hons) Degree in Marine Operations Management</i></b></p> |

### 3. MARINE ENGINEERING OFFICERS

#### 3.1 DEGREE PROGRAMME

| ACADEMY PHASE  | DURATION  | CONTENT  |
|--|-----------|--|
| Induction  | 3 weeks   | Freshers week / General induction to shipping industry<br>Assessment for entry to Degree programme<br>STCW short courses - PST, BFF, EFA, PSSR   |
| Phase 1  | 24 weeks  | Marine Engineering Principles<br>Workshop Skills Training<br>Foundation Degree (FdEng) units:<br>Mathematics<br>Mechanics / Thermodynamics<br>Marine Legislation and Management Principles<br>Work Based Learning  |
| Phase 2<br>(At Sea)  | 25 weeks  | Work Based Learning (Operations Level)<br>MNTB Engineer Training Record Book   |
| Phase 3  | 30 weeks  | Foundation Degree (FdEng) units:<br>Marine Electrics / Marine Auxiliary System Principles<br>Marine Propulsion System Principles<br>Ship Construction / Ship Stability<br>Further Mathematics<br>Further Mechanics / Further Thermodynamics<br>Engineering Design & Project Part 1<br>Work Based Learning<br>Workshop Skills Training                        |
| Phase 4<br>(At Sea)  | 23 weeks  | Work Based Learning (Management Level)<br>MNTB Engineer Training Record Book   |
| Phase 5<br>Part 1  | 14 weeks  | Consolidation of Work Based Learning<br>Foundation Degree (FdEng) units:<br>Advanced Marine Electrics<br>Engineering Design & Project Part 2<br>Instrumentation & Control Principles<br>Engineering Management<br><br><i>Successful completion of academic assessments leads to the award of:<br/><b>Foundation Degree (FdEng) in Marine Engineering</b></i> |
| Phase 5<br>Part 2  | 9 weeks   | STCW short courses: MFA, AFF, PSC&RB<br>Workshop Skills Training<br>MCA Orals Preparation<br><br><i>Successful completion of MCA Oral examination leads to award of<br/><b>initial MCA Certificate of Competency and end of cadetship.</b></i>   |
| Phase 6<br>Top up to<br>BEng (Hons)<br>Degree                            | 15 weeks  | Bachelor of Engineering (BEng) Honours degree units:<br>Engineering Project<br>Project Management<br>Professional Engineering Management<br>Optional Subjects (2 of 4): Control Systems, Naval Architecture,<br>Materials & Manufacturing, Curriculum Plus   |
| Phase 7<br>(At sea/on leave)<br><br>Blended Learning<br>Tutorial Support | 10 months | Complete self-study elements of Project Management and Professional<br>Engineering Management.<br>Complete Project - up to 18 months to complete.<br><br><i>Successful completion of all units leads to the award of:<br/><b>BEng (Hons) Degree in Marine Engineering and Management</b></i>   |

### 3.2 HND PROGRAMME

| ACADEMY PHASE       | DURATION   | CONTENT  |
|---------------------|--|--|
| Phase 1             | 30 weeks   | <p>Freshers week and general induction to shipping industry</p> <p>HE Entry Course - Study skills, Maths, IT skills, UPK for 1st sea phase, plus intro to: Electrics, Ship Construction and Stability, Marine Engineering Principles, Marine Legislation, Applied Heat/Mechanics.</p> <p><i>Successful completion of the HE Entry Course leads to the award of:</i></p> <p style="text-align: center;"><b><i>National Certificate of Further Education (NcFE)</i></b></p> <p>MNTB Workshop Skills &amp; Technology<br/>STCW short courses - PST, BFF, EFA, PSSR</p>  |
| Phase 2<br>(At Sea) | 22 weeks   | <p>MNTB Engineer Training Record Book</p> <p>Consolidation of UPK (underpinning knowledge)</p>   |
| Phase 3             | 37 weeks   | <p>HND Level 1 units</p> <ul style="list-style-type: none"> <li>Mathematics</li> <li>Mechanics</li> <li>Marine Propulsion Systems</li> <li>Marine Auxiliary Systems</li> <li>Thermodynamics</li> <li>Marine Electrics</li> <li>Marine Legislation and Management</li> <li>Preparation for Project</li> </ul> <p>MNTB Workshop Skills</p>   |
| Phase 4<br>(At Sea) | 28 weeks   | <p>MNTB Engineer Training Record Book</p> <p>Consolidation of UPK / IAMI EK &amp; MCA Orals preparation</p>  |
| Phase 5             | <p>9 weeks<br/>for completion<br/>of EOOW CoC</p> <p style="text-align: center;">+</p> <p>26 weeks<br/>for completion<br/>of HND Part 2<br/>(academic<br/>exemptions to<br/>CEO level)</p> | <p>STCW short courses - MFA, PSC&amp;RB, AFF</p> <p>Completion of MNTB Workshop Skills</p> <p>Preparatory courses for IAMI EK &amp; MCA Orals examinations</p> <p><i>Successful completion of IAMI EK/MCA Oral examinations leads to the award of the initial MCA Certificate of Competency</i></p> <p>HND Level 2 units</p> <ul style="list-style-type: none"> <li>Further Mathematics</li> <li>Further Mechanics</li> <li>Further Thermodynamics</li> <li>Ship Stability and Construction</li> <li>Advanced Marine Electrics</li> <li>Instrumentation and Control Systems</li> <li>Engineering Management</li> <li>Engineering Design &amp; Project</li> </ul> <p><i>Successful completion of all HND academic assessments provides full academic exemptions up to Chief Engineer level and leads to the award of <b>Higher National Diploma (HND)</b></i></p> <p><i>Candidates who successfully achieve a full HND should later be eligible to top-up the academic award to:</i></p> <p style="text-align: center;"><b><i>BEng (Hons) Degree in Marine Engineering and Management</i></b></p> |

## 4. ELECTRO-TECHNICAL OFFICERS (ETOs)

### 4.1 DEGREE PROGRAMME

| ACADEMY PHASE  | DURATION  | CONTENT   |
|--|-----------|---|
| Induction  | 3 weeks   | Freshers week / General induction to shipping industry<br>Assessment for entry to Degree programme<br>STCW short courses - PST, BFF, EFA, PSSR  |
| Phase 1  | 24 weeks  | Marine Engineering Principles<br>Workshop Skills Training / Introduction to Electronics<br>Foundation Degree (FdEng) units:<br>Mathematics / Mechanics / Thermodynamics<br>Marine Legislation and Management Principles<br>Work Based Learning  |
| Phase 2<br>(At Sea)  | 25 weeks  | Work Based Learning (Operations Level)<br>MNTB Engineer Training Record Book / Electronics (Guided Studies)   |
| Phase 3  | 30 weeks  | Foundation Degree (FdEng) units:<br>Marine Electrics / Marine Auxiliary System Principles<br>Marine Propulsion System Principles<br>Ship Construction / Ship Stability<br>Further Mathematics<br>Further Mechanics / Further Thermodynamics<br>Engineering Design & Project Part 1<br>Work Based Learning<br>Electronic Principles & Systems / Workshop Skills Training |
| Phase 4<br>(At Sea)  | 23 weeks  | Work Based Learning (Management Level)<br>MNTB Engineer Training Record Book (plus ETO-specific tasks)  |
| Phase 5<br>Part 1  | 14 weeks  | Consolidation of Work Based Learning<br>Foundation Degree (FdEng) units:<br>Advanced Marine Electrics / Instrumentation & Control Principles<br>Engineering Management / Engineering Design & Project Part 2<br><i>Successful completion of academic assessments leads to the award of:<br/>Foundation Degree (FdEng) in Marine Engineering</i>                         |
| Phase 5<br>Part 2  | 9 weeks   | STCW short courses: MFA, AFF, PSC&RB<br>Workshop Skills Training<br>MCA Orals Preparation<br><i>Successful completion of MCA Oral examination leads to award of<br/>initial MCA Certificate of Competency and end of cadetship.</i>   |
| Phase 6<br>Part 1<br><br>Top up to<br>BEng (Hons)                        | 15 weeks  | Bachelor of Engineering (BEng) Honours degree units:<br>Engineering Project<br>Project Management<br>Professional Engineering Management<br>Optional Subjects (2 of 4): Control Systems, Naval Architecture,<br>Materials & Manufacturing, Curriculum Plus  |
| Phase 6<br>Part 2<br><br>ENEM & GMDSS                                    | 10 weeks  | Additional units:<br>Electronic Navigation Systems<br>Navigation Systems Fault Diagnosis<br>Radio Communication Engineering<br>GMDSS Radio Maintenance & ENEM certificates  |
| Phase 7<br>(At sea/on leave)<br><br>Blended Learning<br>Tutorial Support | 10 months | Complete self-study elements of Project Management and Professional<br>Engineering Management.<br>Complete Project - up to 18 months to complete.<br><i>Successful completion of all units leads to the award of:<br/>BEng (Hons) Degree in Marine Engineering and Management</i>   |

## 4.2 HND PROGRAMME

| ACADEMY PHASE                         | DURATION   | CONTENT  |
|---------------------------------------|--|--|
| Phase 1                               | 30 weeks   | <p>Freshers week and general induction to shipping industry</p> <p>HE Entry Course - Study skills, Maths, IT skills, UPK for 1st sea phase, plus intro to: Electrics, Ship Construction and Stability, Marine Engineering Principles, Marine Legislation, Applied Heat/Mechanics.</p> <p><i>Successful completion of the HE Entry Course leads to the award of:</i></p> <p><b>National Certificate of Further Education (NcFE)</b></p> <p>MNTB Workshop Skills &amp; Technology / Introduction to Electronics<br/>STCW short courses - PST, BFF, EFA, PSSR</p>   |
| Phase 2<br>(At Sea)                   | 22 weeks   | <p>MNTB Engineer Training Record Book / Electronics (Guided Studies)<br/>Consolidation of UPK (underpinning knowledge)</p>   |
| Phase 3                               | 37 weeks   | <p>HND Level 1 units</p> <ul style="list-style-type: none"> <li>Mathematics / Mechanics</li> <li>Marine Propulsion Systems / Marine Auxiliary Systems</li> <li>Thermodynamics</li> <li>Marine Electrics</li> <li>Marine Legislation and Management</li> <li>Preparation for Project</li> </ul> <p>Electronic Principles &amp; Systems<br/>MNTB Workshop Skills</p>   |
| Phase 4<br>(At Sea)                   | 28 weeks   | <p>MNTB Engineer Training Record Book (plus ETO-specific tasks)<br/>Consolidation of UPK / IAMI EK &amp; MCA Orals preparation</p>   |
| Phase 5                               | <p>9 weeks<br/>for completion<br/>of EOOW CoC</p> <p style="text-align: center;">+</p> <p>26 weeks<br/>for completion<br/>of HND Part 2<br/>(academic<br/>exemptions to<br/>CEO level)</p> | <p>STCW short courses - MFA, PSC&amp;RB, AFF<br/>Completion of MNTB Workshop Skills<br/>Preparatory courses for IAMI EK &amp; MCA Orals examinations</p> <p><i>Successful completion of IAMI EK/MCA Oral examinations leads to the award of the initial MCA Certificate of Competency</i></p> <p>HND Level 2 units</p> <ul style="list-style-type: none"> <li>Further Mathematics / Further Mechanics</li> <li>Further Thermodynamics</li> <li>Ship Stability and Construction</li> <li>Advanced Marine Electrics</li> <li>Instrumentation and Control Systems</li> <li>Engineering Management</li> <li>Engineering Design &amp; Project</li> </ul> <p><i>Successful completion of all HND academic assessments provides full academic exemptions up to Chief Engineer level and leads to the award of <b>Higher National Diploma (HND)</b></i></p> <p><i>Candidates who successfully achieve a full HND should later be eligible to top-up the academic award to:</i></p> <p><b>BEng (Hons) Degree in Marine Engineering and Management</b></p> |
| Phase 6<br>Part 2<br><br>ENEM & GMDSS | 10 weeks   | <p>Additional units:   Electronic Navigation Systems<br/>                          Navigation Systems Fault Diagnosis<br/>                          Radio Communication Engineering</p> <p>GMDSS Radio Maintenance &amp; ENEM certificates</p>   |

## **5. AFTER THE OFFICER CADETSHIP**

### **NAVIGATION OFFICERS**

Newly qualified Navigation (Deck) Officers will usually join their company's fleet as a 3rd Officer, undertaking bridge watchkeeping duties at sea and operational duties in port, with responsibility for the safety of the crew, ship, cargo and environment. As their skills and experience develop, young officers progress to higher certificates of competency, leading eventually to certification as ship's Captain (Master) and possibly to the command of their own vessel.

Numerous opportunities also exist for qualified Navigation Officers ashore. Shipping companies often recruit shore based marine superintendents and fleet operations staff from their seagoing officers. Harbour authorities recruit experienced officers to train as pilots, harbour masters and port operations managers, while Classification Societies, such as Lloyd's Register of Shipping, and marine insurance companies require the officers' skill and experience to fill such roles as hull and cargo surveyors. The MCA also require surveyors and examiners while maritime colleges recruit lecturers and assessors.

### **MARINE ENGINEERING OFFICERS**

Newly qualified Marine Engineering Officers will usually join their company's fleet as 4th Engineer Officer, undertaking engine room watchkeeping duties and having responsibility for the safe and efficient operation of the ship's main propulsion unit and other vital services. As their skills and experience develop, young officers progress to the higher certificates of competency, leading eventually to the Chief Engineer Officer's Certificate and possibly to the position of Chief Engineer Officer.

Marine Engineering Officers acquire a range of transferable skills through professional development and experience, which have many applications in jobs ashore both related and unrelated to the marine industries. Shipping companies often recruit their shore based engineering superintendents from seagoing staff, and Classification societies and marine insurance companies recruit machinery surveyors from the same source. The MCA also require surveyors and examiners while maritime colleges recruit lecturers and assessors.

### **ELECTRO-TECHNICAL OFFICERS**

After completing the cadetship, ETOs have the choice of following a similar career path to that of the Marine Engineering Officer (as above) or remaining within the ETO specialisation. Job opportunities and career progression within the ETO specialisation will depend on the shipping company concerned.

## 6. TAKING THE NEXT STEP

If you wish to undertake an Officer Cadetship and meet the requirements outlined in the previous sections, the next step is to find a company to sponsor you. Companies normally start the recruitment process around Christmas each year for entry in the following September. Warsash Maritime Academy keeps an up to date list of companies who recruit both Navigation, Marine Engineer and Electro-Technical Officer Cadets and this is available on request.

The staff at Warsash Maritime Academy are happy to offer any advice or assistance that they can. Please contact our Cadet Administrator, Mrs Sandra Petcher, at the address shown below.

Mrs Sandra Petcher  
Cadet Administrator  
Warsash Maritime Academy  
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Warsash  
Southampton SO31 9ZL

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Tel. 01489 576161 (Switchboard)  
Fax. 01489 573988  
E-mail. [wma@solent.ac.uk](mailto:wma@solent.ac.uk)  
Website. [www.warsashacademy.co.uk](http://www.warsashacademy.co.uk)

The following websites provide additional information about Southampton Solent University, careers at sea, training courses and/or recruiting shipping companies, and guidance to MCA certification:

|                               |  |
|-------------------------------|--|
| Southampton Solent University | <a href="http://www.solent.ac.uk">www.solent.ac.uk</a>   |
| Careers at Sea                | <a href="http://www.careersatsea.org.uk">www.careersatsea.org.uk</a>   |
| Maritime Careers              | <a href="http://www.careers-scotland.org.uk/MaritimeCareers">www.careers-scotland.org.uk/MaritimeCareers</a> |
| Merchant Navy Training Board  | <a href="http://www.mntb.org.uk">www.mntb.org.uk</a>   |
| The Marine Society            | <a href="http://www.marine-society.org">www.marine-society.org</a>   |
| The Chamber of Shipping       | <a href="http://www.british-shipping.org">www.british-shipping.org</a>                                       |
| Maritime & Coastguard Agency  | <a href="http://www.mcga.gov.uk">www.mcga.gov.uk</a>   |

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