



Programme Specification

NUS-AD-2022: Nautical Science

SQA Advanced Diploma awarded by Scottish Qualifications Authority (FHEQ Level 5)

Programme Status: Approved | Version: 1

Introduction

This programme specification provides a summary of the main features of the Nautical Science programme and includes the learning outcomes that you as a student are expected to have achieved on successful completion of the programme.

Further detailed information related to this programme and the College can be found in the following resources:

- Programme Handbook
- B&FC Admissions Policy
- Work based and placement learning handbook (for foundation degrees)
- Student guide to assessment and feedback

When undertaken as part of a Degree Apprenticeship additional information is available in the following resources:

- The Programme Delivery Plan
- The End Point Assessment Guide
- B&FC Mentor Guide
- B&FC Apprenticeship Strategy

Key Programme Information

Programme Code	NUS-AD-2022
Programme Title	Nautical Science
Teaching Institution	Blackpool and The Fylde College
Professional, Statutory and Regulatory Body (PSRB) Accreditation	None
UCAS Code	
Language of Study	English
Version	1
Approval Status	Approved
Approval Date	25 January 2023
JACS Code	Other: Other
Programme Leader	Lucy Summerville

Programme Awards

Award	Award Type	Level	Awarding Body
SQA Advanced Diploma	Advanced Diploma	Level 5	Scottish Qualifications Authority

Programme Overview

The Advanced Diploma Nautical Science aims to provide you with the fundamental knowledge and key study skills required to allow further study at a Higher Education Level. You will achieve good understanding of Marine Navigation, Ship Stability, Shipboard Operations, Shipmasters Business and Shipboard Management and solve problems from a Management perspective. You will also develop practical skills through bridge simulation and cargo/Stability programmes.

Successful completion of this programme will enable you to:

1. Progress towards you obtaining a UK Chief Mate Unlimited II/2 Certificate of Competency (CoC) of a merchant vessel.

2. Take responsibility of managing watches at sea and in port.
3. Effectively manage navigation of a vessel by traditional and modern means.
4. Manage a vessel in a safe and effective manner.
5. Work with others in a safe and effective manner.
6. Develop skills to deal with emergency situations.
7. Develop discipline and compliance with current maritime legislation.
8. Prepare for the external MCA written and oral examinations at Chief Officer Level.

Admission Criteria

Typically, you will complete a Level 4 Advanced Certificate (AC) in Nautical Science at Fleetwood Nautical Campus and undertake time at sea prior to the start of the AD programme.

AD Direct Entry

Students who can provide an MCA approved unlimited Officer of the Watch (OOW) Certificate of Competency and have also completed 12 months seagoing service as an OOW will be eligible to join the AD Nautical Science programme.

Career Options and Progression Opportunities

The majority past graduates of this programme secure sustainable employment immediately upon completion. Progression routes within the Merchant Navy are well mapped and available to all. HE progression routes are varied; details and guidance are freely available on request through course leaders. Learners who have achieved the Advanced Diploma qualification and Chief Mate Certificate of Competency, after gaining the additional required sea-time, can – and usually do – progress on to the Masters Orals course, studying towards their final MCA Certificate of Competency.

The Advanced Diploma and Chief Mate Certificate of Competency qualifications will enable you to work at sea as Chief Officer (a management level position on board ships). It is during this service period at sea that you will have the opportunity to accumulate the further sea service required to progress to the Master (unlimited) Certificate of Competency.

Fleetwood Nautical Campus offers a BSc (Hons) Maritime Operations Management (Nautical Science) award, validated by the Lancaster University, for which you will be eligible to enrol onto should you successfully complete this programme and undertake a pre-entry module.

Programme Aims

General aims of the qualifications:

- To develop the ability to analyse and plan tasks commonly encountered in the workplace.
- To develop approaches to problem solving and critical thinking.
- To develop an evaluative and reflective approach to work and studies.
- To develop the ability to work and communicate effectively with others.
- To develop the ability to plan and organise studies and research.
- To develop skills for employability and progression to higher qualifications.
- To enable the learner to consolidate knowledge and skills to enhance career progression.
- To enable the learner to develop skills to enhance their own personal development.
- To develop Core Skills which are capable of being transferred to any type of employment.

Specific aims of the AD:

- Develops the skills required to manage and control the safe navigation of the vessel in all conditions.
- Develops the skills required to manage and control vessel operations in compliance with

current legislation.

- Develops a sound understanding of shipboard management issues and techniques.
- Develops a sound understanding of the ship Master's role with respect to the legal aspects of managing the navigation and operation of the vessel.
- Develops an understanding of the vessels propulsion maintenance and engineering requirements.
- Prepares learners for the MCA written and oral examinations at Chief Mate level.

Programme Learning Outcomes

Level 5

Upon successful completion of this level, students will be able to:

1. Apply core concepts and principles of navigation, ship stability and management of bridge and vessel operations demonstrating judgement in the application of tools and techniques
2. Critically evaluate the global context of maritime operations incorporating cultural, legal, ethical and environmental factors
3. Plan, implement and appraise shipboard operations with due regard to industry legislation, regulatory frameworks and standards
4. Analyse complex problems in order to identify appropriate methods to formulate mathematical models and solutions
5. Develop and evaluate logical arguments, justifications and conclusions associated with complex issues identifying underlying assumptions and critical factors
6. Critically analyse and evaluate processes, procedures and practices of effective shipboard management
7. Reflect on the appropriateness of different approaches to solving problems
8. Appraise and interpret complex emergency scenarios in simulated environments and apply self-management, leadership and supervision skills
9. Communicate in a variety of forms to a range of audiences
10. Prepare and interpret complex loading, discharging and stress data by utilising IT systems and specialist industry software
11. Research and embed information from a variety of traditional and digital sources to support personal and professional development, lifelong learning and achievement.

Programme Structure

Module	Level	Credits	%	Category	Description	Length/Word Count	Grading Method
Stage 1							
HW6E47: Navigational Mathematics and Science (Mandatory)	4	8	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
HW6G47: Bridge Watchkeeping (Mandatory)	4	8	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
HW6H47: Marine Cargo Operations (Mandatory)	4	12	100%	Written Exam: Formal Written Examination	Written exam	120	Percentage Grade
HW6J47: Ship Stability: An Introduction (Mandatory)	4	12	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
HW6K47: Naval Architecture: Ship Construction (Mandatory)	4	8	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
HW6M48: Celestial Navigation (Mandatory)	5	16	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
			-	Practical: Practical Skills Assessment	Practical	20	Pass/Fail
HW6N47: Nautical Science: Graded Unit 1 (Mandatory)	4	8	100%	Written Exam: Formal Written Examination	Examination	180	Percentage Grade
HW6P47: Chartwork and Tides (Mandatory)	4	16	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
HW6R47: Marine Meteorology: An Introduction (Mandatory)	4	8	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
			-	Practical: Exercise	Practical/Assignment	30	Pass/Fail
HW7247: Marine Emergency Response and Communication (Mandatory)	4	8	100%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade
			-	Practical: Practical Skills Assessment	Signal	90	Pass/Fail
HW7347: Marine Law and Management: An Introduction (Mandatory)	4	8	100%	Coursework: Assignment	Assignment	1200	Percentage Grade
Stage 2							
HP6L47: Information Technology: Applications Software 1 (Mandatory)	4	8	-	Coursework: Portfolio / e-Portfolio	Portfolio	2000	Pass/Fail
HW7448: Marine Passage Planning (Mandatory)	5	12	50%	Coursework: Project	Project	2000	Percentage Grade
			50%	Written Exam: Formal Written Examination	Examination	120	Percentage Grade

HW7548: Management of Bridge Operations (Mandatory)	5	12	60%	Practical: Presentation	15 minute presentation and 1500 report	15	Percentage Grade
			40%	Practical: Presentation	15 minute presentation and 1500 report	15	Percentage Grade
HW7648: Applied Marine Meteorology (Mandatory)	5	12	70%	Coursework: Report	n/a	2500	Percentage Grade
			30%	Practical: Presentation	n/a	15	Percentage Grade
HW7748: Ship Stability: Theory and Practical Application (Mandatory)	5	12	100%	Written Exam: Formal Written Examination	Examination	180	Percentage Grade
HW7848: Shipmasters Law and Business (Mandatory)	5	16	100%	Coursework: Essay	Essay	3000	Percentage Grade
HW7948: Shipboard Management (Mandatory)	5	8	100%	Coursework: Report	n/a	120	Percentage Grade
HW7A48: Marine Vessels: Structures and Maintenance (Mandatory)	5	8	70%	Coursework: Report	n/a	2000	Percentage Grade
			30%	Practical: Presentation	n/a	15	Percentage Grade
HW7C48: Management of Vessel Operations (Mandatory)	5	16	50%	Coursework: Report	2000 word report	2000	Percentage Grade
			50%	Practical: Presentation	PPT with narration	15	Percentage Grade
HW7E48: Nautical Science: Graded Unit 2 (Mandatory)	5	8	100%	Written Exam: Formal Written Examination	Examination	180	Percentage Grade
HW7F48: Nautical Science: Graded Unit 3 (Mandatory)	5	8	100%	Written Exam: Formal Written Examination	Examination	180	Percentage Grade
HW7J48: Marine Engineering Systems (Mandatory)	5	8	100%	Coursework: Report	n/a	2500	Percentage Grade

Study Workload

This programme requires commitment to attend online lectures, classrooms lectures (where appropriate) in line with your study timetable. It is a requirement of the programme that you also undertake appropriate independent study and further reading and assessment.

As well as attendance in lectures and blended engagement, you are expected to undertake sufficient self-directed study. For each hour of class contact, you can typically expect to undertake an additional 2-3 hours of work; however, this is dependent upon individual progress. You will need to find the right number of hours based on your own needs. Our tutors can help you with advice and support.

Programme Delivery: Learning and Teaching

Throughout your programme you will learn and be assessed in a range of ways to support the overall aims and outcomes of the programme in order to equip you with the appropriate skills for roles within the maritime industry. Employers will be looking for a range of skills and competencies, including innovation and initiative. They will be keen to employ strong communicators and team players. The programme is designed to promote the development of these qualities alongside core technical competencies and academic knowledge.

Units

Each unit has its own learning, teaching and assessment strategy to suit specific aspects of the curriculum. You will progress through the units via a range of learning and assessment styles, and the supportive structure of the programme allows you to build on knowledge developed in earlier units.

Resources

The resources to support you in your studies include books, e-books and journals, as well as the colleges VLE. The LRC provides access to all relevant publications, as identified on the reading lists. You will receive access to maritime specific documents and eBooks with membership to Witherby publications and regs4ships. Videotels Networked Video on Demand (NVOD) is used in the classroom to provide access to a repository of information videos designed for training industry professionals. Canvas provides an online platform for programme resources, allowing you to access materials to supplement your classroom based studies 24 hours a day, 7 days a week. Simulation of nautical environments and operations are conducted in the Bridge Simulator. The simulator is used in several of the units to provide a basis for application of theories such as those studies in Bridge watchkeeping and Electronic Navigational Systems and to support your studies when considering bridge operations.

Independent learning

Effective learning is more likely when you are given and accept responsibility for your own learning and have some control over the learning context. Each unit has been designed to support small group work structured to facilitate cooperative learning and enable some autonomy. Many units include problem-based learning where a group works collaboratively to solve a particular problem, then reflects on the outcomes in order to apply them at sea or in further tasks. You will develop an ability to define problems, identify and acquire the skills and knowledge needed to solve them, and then work through the solution. You will be required to take responsibility for your own and the groups learning.

Academic support

If you have subject specific issues or would like a focused learning environment to work, clinics are available each evening from Monday to Thursday. Typically, there are at least two staff members available each evening providing support for a range of subjects and levels. This is used to provide support where you may be struggling or want to further develop skills and knowledge. This is in addition to the Partners for Success framework where subject lecturers and personal tutors can identify support mechanisms for entire groups or yourself as an individual to support and ensure that you are provided with the best possible opportunities to engage fully with your learning experience and the full life of the college. You will be able to access a wide range of additional enhancements during your studies to support you in your learning and ultimately with your employment prospects. The College works to provide a supportive ethos and an enabling culture which builds individuals, communities and economic prosperity.

Programme Delivery: Assessment

Assessments will be set to test your understanding rather than your ability to memorise and reproduce knowledge or processes. This will be an opportunity for you to reflect on your progress throughout the programme and consider your next step of working towards Chief Mate Certificate of Competency. Assessments have been developed to measure your successful completion of all elements of the programme, and as you progress between units you will complete assessments to demonstrate your achievement of the learning outcomes stated in the unit specifications. Formative and summative assessments provide a wide-ranging indication of your progress and development and include traditional examinations as well as coursework exercises. The majority of the units you undertake will be summatively assessed by examination, as this methodology is recognised by industry bodies. By completing these examinations, you will be exempt from the academic subjects when studying towards Chief Mate Certificate of Competency. In addition to examinations, you will undertake coursework assignments which include the use of ship loading software, essays on topics such as principles and application of UK legislation, safety management and calculating cargo quantity within the constraints of prevailing legislations and contact of carriage.

Programme Delivery: Work Based and Placement Learning

While there is no specific unit dedicated to Work Based Learning or Placement, as part of your programme you will maintain a close working relationship with your shipping company and will be expected to undertake sea phases prior to enrolling onto the AD Nautical Science programme. Further, it is required by the MCA that in order to obtain the Chief Mate (Unlimited) Certificate of Competency you must have completed the required amount of sea service.

Programme Delivery: Graduate Skill Development

The programme helps you to develop:

A commitment to lifelong learning and career development

The AD Nautical Science supports lifelong learning through learning mobility which aims to attain new competences and knowledge as identified by the International Convention on Standard of Training, Certification and Watchkeeping for Seafarers (STCW) certification for Officer of the Watch on board vessels.

Collaborative teamwork and leadership skills

During the undertaking of the Marine Law and Management unit, Bridge Watchkeeping unit and Electronic Navigations Systems short course, you will be expected to work towards common goals and partake in leadership roles as required. Working collaboratively, you will analyse your peer's performances and review the necessary roles and responsibilities of the exercises undertaken.

Personal and intellectual autonomy

We support your development of independence in academic and practical skills on the programme, most prominent in the assignments and projects where you will be responsible for managing your work. Ethical, social and professional understanding Mapping of the programme content to the requirements of the Advanced programme set by Merchant Navy Training Board (MNTB) ensures that the units delivery and assessment considers legal, social and ethical issues to enhance learners professional development.

Global citizenship

To build your global skills and competency, the programme was developed liaising with international maritime companies likes Princess Cruises, BP, Chiltern Maritime, Shell and V ships. The department also has close links with Kuwait Shipping Companies. The programme is delivered by faculty, from the Nautical Science department who have different ethnic and cultural backgrounds. By bringing faculty together from different academic background students explore global markets in marine industry, marine laws, and marine technological developments globally.

Study Costs: Equipment Requirements

Mandatory Requirements- Writing/Drawing Materials and Instruments for taking notes and Chartwork can be purchased from College or any other supplier. When purchasing standard items, the cost will not normally exceed £100. You will also be required to purchase a scientific calculator such as CASIO fx 115 MS S-VPAM.

Study Costs: Additional Costs

There are no additional costs involved.

Related Courses

Fleetwood Nautical Campus offers the following programmes:

- FdEng Marine Engineering (awarded by Lancaster University)
- FdEng Marine Electrical and Electronic Engineering (awarded by Blackpool and The Fylde College)
- FdSc Nautical Science (awarded by Blackpool and The Fylde College)
- AC/D Marine Engineering (awarded by SQA)

These programmes all work in alignment to deliver focused education and training to address the needs of the Maritime industry.