



Programme Specification

NSC-2018: Nautical Science FdSc

B&FC Foundation Degree in Science awarded by Blackpool And The Fylde College (FHEQ Level 5)

Programme Status: Approved | Version: 1

Introduction

This programme specification provides a summary of the main features of the Nautical Science FdSc programme and the learning outcomes that you as a student might reasonably be expected to achieve and demonstrate 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 Student Handbook
- B&FC Admissions Policy
- Work based and placement learning handbook (for foundation degrees)
- Student guide to assessment and feedback

Key Programme Information

Programme Code	NSC-2018
Programme Title	Nautical Science FdSc
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	03 August 2018
JACS Code	
Programme Leader	Alex Barlow

Programme Awards

Award	Award Type	Level	Awarding Body
B&FC Foundation Degree in Science	Foundation Degree (240 credits)	Level 5	Blackpool And The Fylde College

Programme Overview

Blackpool and The Fylde College (B&FC) remains committed to providing a highly responsive curriculum that is employment and future-focused and will enable you to develop the essential knowledge and skills that will prepare you for future success in work and life.

The Foundation Degree in Nautical Science will provide you with the knowledge, skills and attitudes needed for a Merchant Navy career. Approved by the Merchant Navy Training Board (MNTB), this three-year programme combines theoretical training with safety training and 12 months' sea-going time, leading to the award of Officer of the Watch (OOW) Certificate of Competency (CoC).

Regarded as one of the UK's top nautical institutions, Fleetwood Nautical Campus (FNC) has strong industry partnerships, which could open the door to excellent employment opportunities.

This programme is typically only available if you are sponsored by a shipping company or cadet

training provider due to the work-based learning modules, which should ordinarily be completed on board ships.

This programme is aligned to support your progression through knowledge acquisition at operational level and onto managerial level, as directed by the Standard of Training, Certification and Watchkeeping (STCW) 1978, as amended. This is achieved by meeting the requirements of the Maritime and Coastguard Agency (MCA) and approved by the MNTB. In addition to this programme providing a level 5 foundation degree academic qualification which integrates academic and work-based learning through close collaboration between employers and B&FC, you will also undertake a cadet training programme that runs alongside the academic award. You will cover topics such as STCW basic training in vocational areas such as first aid, fire fighting and survival at sea, alongside courses such as enclosed space rescue.

Programme Structure

The programme is delivered across 3 years and broken down into five phases: phases 1, 3 and 5 will be delivered at college whilst phases 2 and 4 will be spent undertaking work based learning at sea. Industrial experience will normally be achieved through sea time, when sponsored by a shipping or training company, meeting the MCA requirements. However, other maritime related industries may meet the requirements of the programme.

Phase 1

Before you begin your academic studies, you will participate in the Cadet Development Course – a four day programme that is a team-building exercise that serves as an ice-breaker between yourself and the other members of your cohort. It also starts you on a path to developing your teamwork, management and interpersonal skills mentioned below. This is continued in a more low-key way through adventure based training sessions that run alongside the main academic programme.

There are three key aspects to the maritime industry that this programme covers: navigation, operations and business, law and management, all supported by the development of transversal (transferable) skills/graduate attributes that you can utilise in any industry. Phase 1 introduces you to the key concepts in each of these three fields – how navigation is effected safely and practically, how ships carry out operations safely and the basis for the procedures underpinning both of these in law. The key objective here is not to make you experts in the fields of nautical science, rather to equip you with the skills to learn in the workplace and to enable you to behave in a safe and appropriate manner, where risk management is an essential tool in everyday life.

You will also be developing your academic skills: how to engage with industry and academic literature, how to handle data, how to communicate effectively and appropriately in an academic context as well as many other related skills.

In addition, during Phase 1, you will also undertake vocational training involving several safety training courses designed to provide you with the basic training for seafarers.

Phase 2

During Phase 2, you will be working on board a ship as a deck cadet, undertaking daily duties which may range from the menial – basic maintenance and cleaning windows – to the highly rewarding – bringing a large merchant vessel into port safely. You will apply your knowledge and understanding from Phase 1 during this time, thinking about how underpinning theories and concepts relate to what you are experiencing in the day-to-day life of the ship.

If you are completing the integrated cadetship, during your sea phases you will complete a Training Record Book (TRB), a list of tasks that must be signed off by officers onboard; this list is aligned to the industry's National Occupational Standards. You will also write up a Navigation and Shipboard Operations workbook, showing you understand how to complete the tasks identified in the TRB. These two pieces of work are separate to your academic work based

learning report that shows that you understand why you are doing what you do, that you can link what you are doing to underpinning theories and that you are able to learn from your experiences.

Phase 3

Phase 3 will build upon the knowledge gained during your initial modules, as well as industrial experience acquired during Phase 2. Early in the phase, you will complete your Level 4 studies and advance to your Level 5 studies. At Level 5, you are expected to deepen your understanding of the subject areas and start to think more critically about the core concepts and theories in the field. You will also engage with some of the more advanced concepts of navigation, such as navigating the vessel using celestial bodies; shipboard operations, such as keeping a vessel stable in both intact and damaged condition; and 'business, law and management', where you will examine the legal, business and managerial concerns of the ship's master. You will also undertake further advanced training courses required for certification as a deck officer.

Phase 4

Phase 4 follows a similar focus to Phase 2 – you should now be focussing more on understudying the role of the officer of the watch, as well as learning about the managerial concerns of the master and chief mate. You will write about this and reflect on this experience and your own learning, with a focus on the managerial aspects of running a ship.

Phase 5

Phase 5 will be the culmination of your studies, you will use all of your acquired skills to pass final courses and prepare for the MCA Oral Exam, which you must pass to obtain your Certificate of Competency as an Officer of the Watch.

The included programme structure reflects the fact that work based learning modules span the phase before and after the phase in which the actual work based learning takes place. For that reason, understand that duplicate module titles reflect the work being completed across multiple phases (stages), not repeated in each phase.

Admission Criteria

You will need to meet the following criteria to be applicable for consideration of a place on this programme;

- 48 UCAS points at A/AS level, including subjects which support the application
- GCSE Mathematics (grade B or above), Science and English Language at grades C or above (or equivalent)
- If English is not your first language, an IELTS score of 6.0 or equivalent, achieved within the two years prior to applying for the programme
- Other qualifications that are equivalent to the above (normally, the College will review evidence supplied by mature, non-standard applicants regarding their ability to undertake the programme)
- The award of credits via Recognition of Prior Experiential Learning (RPEL) will be assessed on an individual basis
- You will need to pass an industry-standard medical examination in order to complete a placement at sea (it is advised that you complete this prior to arrival)

Career Options and Progression Opportunities

If you complete the programme, alongside the required industrial experience and safety courses, you will have the opportunity to be assessed by the MCA to gain Deck

OOW Unlimited CoC. This would normally enable you to take up the position of third or second officer on board a vessel. On completion of the required sea-going service and appropriate additional training, you could then qualify for Chief Mate and Master Certificate of Competency.

Should you be successful, you will also have the option of pursuing one of a variety of shoreside positions available in the maritime industry, among them: ship management, fleet operation, shipbroking, marine insurance, finance, ship repair and shipbuilding, equipment manufacturing, port operations, maritime education and training, surveying and inspecting as well as maritime administration.

You will have the opportunity to progress onto degree top-up programmes, such as the Liverpool John Moore's University awarded BSc (Hons) Nautical Science (top-up degree).

Programme Aims

- To develop students with general and specialist maritime knowledge and technical skills
- To develop students with analytical, critical and problem solving skills
- To prepare students to interact safely and effectively in compliance with legislation in the context of the maritime industry
- To prepare students to manage people by developing leadership, communication and interpersonal skills
- To provide students with knowledge and skills relating to shipboard operational management including planning, resourcing and enhancing procedures
- To integrate technical and academic skills that develop students' graduate attributes in support of lifelong learning and career progression

Programme Learning Outcomes

Level 5

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

1. Apply core concepts and principles of nautical navigation, using relevant skills and techniques.
2. Critically analyse maritime operations in a global context incorporating cultural, legal, ethical and environmental factors.
3. Plan, implement and appraise shipboard operations in compliance with industry legislation, regulatory frameworks and standards.
4. Formulate mathematical solutions to complex nautical problems
5. Evaluate processes, procedures and practices of effective shipboard management.
6. Critically reflect on a range of approaches to managing complex shipboard operations.
7. Communicate effectively in a variety of forms and contexts to a range of audiences.
8. Research and critically analyse information from a variety of sources to support personal and professional development, and lifelong learning.
9. Examine the challenges of managing the maintenance of a vessel, cargo operations and ship stability.

Programme Structure

Pathway	Module	Level	Credits	Coursework	Practical	Written Exam
Stage 1						
All	NSC401: Academic and Work Based Learning (Mandatory)	4	20	100%		
	NSC402: Shipboard Operations (Mandatory)	4	20	30%		70%
	NSC403: Bridge Operations (Mandatory)	4	20	40%		60%
Stage 2						
All	NSC401: Academic and Work Based Learning (Mandatory)	4	20	100%		
Stage 3						
All	NSC401: Academic and Work Based Learning (Mandatory)	4	20	100%		
	NSC404: Bridge Management (Mandatory)	4	20	40%	60%	
	NSC405: Tides, Sailings and Hydrostatics (Mandatory)	4	20			100%
	NSC407: Engineering and Emergency Operations (Mandatory)	4	20	50%		50%
	NSC501: Maritime Law and Business (Mandatory)	5	20	50%		50%
	NSC502: Cargo Management (Mandatory)	5	20	30%		70%
	NSC503: Stability (Mandatory)	5	20			100%
	NSC504: Advanced Navigation (Mandatory)	5	20		20%	80%
	NSC505: Managerial Work Based Learning (Mandatory)	5	20	80%	20%	
	NSC506: Voyage Planning (Mandatory)	5	20	100%		
Stage 4						
All	NSC505: Managerial Work Based Learning (Mandatory)	5	20	80%	20%	
Stage 5						
All	NSC505: Managerial Work Based Learning (Mandatory)	5	20	80%	20%	

Course Options

There are no optional modules.

Study Workload

The programme is delivered across 5 phases, 3 of which take place at college and 2 of which occur within industry aboard ships. This will provide you with the opportunity to gain theoretical knowledge which can then be applied in practice and also allow you to gain valuable first hand experience, which can then be applied during your theoretical studies. During the undertaking of modules at college, you will learn through a combination of lectures, seminars, group tutorials, workshops, workbased and placement learning and independent study.

Throughout the course, you are expected to broaden your industry knowledge through wider reading. Sometimes this will be directed by module leaders and lecturers, other times you will be thinking independently about how you can learn more about the industry, what is contemporary and where you can find the latest research on a given subject. As a participant in Higher Education, you are encouraged to be an active participant in the scholarly community – keeping up to date and sharing your own developments with others so as to advance the knowledge of all.

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.

Modules

Each module has its own teaching, learning and assessment strategy to suit specific aspects of the curriculum. You will experience a range of learning and assessment styles as you undertake the modules and the supportive structure of the programme allows you to build on knowledge developed in earlier modules. You will be encouraged to adopt a holistic approach to your studies, allowing you to develop as a professional with a wide range of skills and competencies and a clear understanding of how all the individual elements of your foundation degree fit together in a maritime context.

Alongside the specific modules for technical disciplines required by a deck officer in the merchant navy, you will also develop your transferrable graduate skills to support you as you undertake higher education studies. This will support you in identifying resources and study techniques that will help you to improve your academic work.

In addition to modules completed during the college phases, you will undertake work-based learning modules at sea. The modules provide an opportunity for you to evaluate and reflect on the application of your underpinning knowledge gained at college to the sea phases. The work-based learning projects are completed during the sea phases with the support of the module leader. This is a designated member of lecturing staff who will be able to answer specific queries by email. The Company Training Officer (CTO) and the Designated Shipboard Training Officer (DSTO) will also play an active role in supporting your learning.

Resources

The resources to support you in your studies include books, e-books and journals, as well as B&FC's Virtual Learning Environment (VLE), Moodle (see below). The Learning Resource Centre "The Loop" 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, an online curated repository of conventions, codes and

regulations relevant to the maritime industry. Additionally, as a maritime cadet you are entitled to free student membership in the Institute of Marine Engineering, Science and Technology (IMarEST) and this will allow you to access international journals and e-books relating to all areas of the programme. Videotel's Networked Video on Demand (NVOD) is used in the classroom to provide access to a repository of information videos designed for training industry professionals.

Moodle 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. Whilst at sea on phases two and four, Moodle will be the main support mechanism for resources to support the Work Based Learning modules while you are at sea.

Practical resources are used to reinforce theories and provide an opportunity for research in many of the modules across the Foundation Degree. These include the eNavigation laboratory where you will navigate and use electronic navigation systems.

Independent learning

Effective learning is more likely to occur when you are given, and accept responsibility for your own learning and have some control over the learning context. Each module has been designed to support small-group work structured to facilitate cooperative learning and enable some autonomy. Many modules 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 group's 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 feel you require extra support or want to further develop skills and knowledge.

This is in addition to the Partners for Success framework, where subject lecturers and progress tutors can identify support mechanisms and ensure that you are provided with the best possible opportunities to engage fully with your learning experience and the full life of B&FC. 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. B&FC works to provide a supportive ethos and an enabling culture which builds individuals, communities and economic prosperity.

Programme Delivery: Assessment

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 towards the role of OOW.

A wide range of assessment methods are embedded in the programme, which will test your understanding of the subject matter. For example, self and peer-assessment in addition to assessment by academic staff can reinforce the concept of you as an independent learner.

Assessments have been developed to measure your successful completion of all elements of the programme, and as you progress between modules you will complete assessments to demonstrate your achievement of the learning outcomes stated in the module specifications.

Formative and final assessments provide a wide ranging indication of your progress and development, and include projects, practical exercises, and tasks to aid the development of personal/professional skills, as well as the more traditional examinations and coursework submissions.

In accordance with the MCA Training & Certification Guidance: UK Requirements for Master and Deck Officers, it is expected that as you undertake this programme, you will need to achieve an overall average of 50% or more in order to successfully achieve the Certificate of Competency. In addition, you will need to obtain a mark of 65% in 'Navigation' and 60% in 'Stability and Operations', the affected assessments are itemised below. Achieving these grades will allow you to claim an exemption from external SQA OOW examinations.

Level 4

- Bridge Management Practical (65%)
- Bridge Management Essay (65%)
- Bridge Operations Exam (65%)
- Bridge Operations Essay (65%)
- Tides Sailings and Hydrostatics Exam 1 (60%)
- Tides Sailings and Hydrostatics Exam 2 (65%)

Level 5

- Advanced Navigation Exam (65%)
- Advanced Navigation Practical (65%)
- Stability Exam (60%)
- Voyage Planning Portfolio (65%)

Reassessment

In the vast majority of cases you will progress from Level 4 to Level 5 without any problems. However, in the event that you are not successful in passing one or more of your assessments, you will be provided with a single opportunity to be reassessed in line with B&FC regulations. Every opportunity has been taken to make this process as simple as possible as per the following schedule:

- Reassessment of Bridge Operations and Shipboard Operations completed during Phase 1, will take place at the start of your Phase 3 studies during the completion of other Level 4 modules.
- Reassessment of Academic and Work Based Learning, Tides, Sailings and Hydrostatics, Engineering and Emergency Operations and Bridge Management modules will take place during Phase 3 after completion of all Level 4 work and prior to commencement of Level 5. Preparation and completion of these reassessments will take place alongside the undertaking of your short courses, during which time you will not be undertaking any academic modules. If you complete your reassessments in the allotted time, you will be allowed to start attending Level 5 classes, but will not be officially enrolled until you are confirmed to have successfully passed Level 4, in that all of your reassessments have met or exceeded the minimum pass mark for the programme as outlined within B&FCs regulations.
- Reassessment of Level 5 modules completed during Phase 3 will be reassessed in at the start of Phase 5.
- Reassessment of your final Level 5 module will be completed within a designated time frame that takes into account the professional examinations and short courses you are undertaking, ordinarily within 12 weeks of original submission.

Programme Delivery: Work Based and Placement Learning

Work placement must be agreed prior to enrolment onto the programme; this would typically be with a shipping company through a sponsored cadet programme in order to achieve the required reduced sea time to be eligible to apply for OOW certification. Alternatively, other industrial placement must be in a relevant maritime field either as agreed by the programme team or the MCA.

The foundation degree is delivered as a 3 year full time programme with 5 phases; phases 2 and 4 will give appropriate time to learn in the workplace, apply Foundation Degree theories gained during College phases and conduct analysis and reflection of learning throughout. These phases will typically be referred to as Sea Phases.

Your level 4 sea phase has been aligned to operational aspects of the maritime industry's standards (STCW) and the first work based learning module will aim to develop your skills in the application of knowledge to practical situations, and to analyse the results. Through this module, the transition from foundation degree study to shipboard work is promoted through application, analysis, evaluation and reflection. In addition, the experience gained during your time in work placement will further support studies in phases at both level 4 and level 5.

Your level 5 work based learning has been aligned to the managerial requirements of STCW building on those subjects and experiences gained at level 4. The module will take place during phase 4 and aims to further develop skills in the application of specialist knowledge to practical situations in a management capacity, and critical analysis of the results. Through this module, the transition from foundation degree study to professional engagement is again promoted through application, critical analysis, evaluation and professional reflection.

The programme helps you to develop;

Collaborative teamwork and leadership skills

During your sea phases, you will work as a team, communicating with your team members, taking leadership roles when needed, managing groups and working towards a common goal. In the work based learning module, you will analyse the objectives and performance of individuals, the roles and responsibilities and performance of teams and you will present a written report.

Personal and intellectual autonomy

We support your development of independence in academic and practical skills throughout the programme, most prominently 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 a foundation degree set by the MNTB ensures that the module delivery and assessment considers legal, social and ethical issues to enhance your professional development.

You will also need to ensure that the research and findings for work based learning modules meets ethical guidelines with appropriate safeguarding in place.

Communication, information and digital literacies

The Academic and Work Based learning module provides the foundations for developing these skills which are then applied in assessments throughout the programme. This will assist you in researching; engaging critically with material; utilising digital technologies effectively to support discovery, analysis and dissemination of information; collaboration; and reflection. In modules throughout the programme, you will be required to communicate in a range of formats to meet assessment criteria including poster and panel presentations, report writing, digital visualisations, design documents, reflective accounts, and use a range of digital technologies related to your specialist area.

Global citizenship

The programme was developed in liaison with international maritime companies like Carnival, Princess Cruises, BP, Chiltern Maritime, Shell and V-Ships. As a global industry, by its very nature, the maritime industry inherently promotes the concept of global citizenship as you will work alongside seafarers from around the world who may hold very different cultural values and expectations from your own. Even within the UK, the pool of candidates is far more cross-sectional across the strata of class backgrounds than many other industries.

Research, scholarship and enquiry skills

The Academic and Work Based Learning module will help you in developing skills required for engagement with technical and academic literature as well as data gathering and analysis skills that will help you to become a part of the global scholarly community, should you wish to pursue scholarship at a higher level.

Study Costs: Equipment Requirements

B&FC provide access to key reading materials and other resources as a part of the course costs. You are expected to provide stationery, including: parallel rules and dividers for chart work, celestial navigation and radar plotting, as well as a scientific calculator.

Study Costs: Additional Costs

Uniform and general personal protective equipment, such as safety shoes and boiler suits, would typically be arranged by your sponsoring company.

Related Courses

Fleetwood Nautical Campus is home to the Maritime Operations Curriculum Area and offers the following programmes;

- FdEng Marine Electrical and Electronic Engineering (awarded by B&FC)
- FdEng Marine Engineering (awarded by Lancaster University);
- HND Marine Engineering (awarded by SQA)
- HND Nautical Science (awarded by SQA)

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

The FdEng Marine Engineering (awarded by Lancaster University) and FdEng Marine Electrical and Electronic Engineering follow a similar format in line with the MNTB framework.