



Programme Specification

MEN-2021: Marine Engineering

LU Foundation Degree in Engineering awarded by Lancaster University (FHEQ Level 5)

Programme Status: Draft | Version: 1

Introduction

This programme specification provides a summary of the main features of the Marine Engineering 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	MEN-2021
Programme Title	Marine Engineering
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	Draft
Approval Date	Not yet approved
JACS Code	Other: Other
Programme Leader	James Ford

Programme Awards

Award	Award Type	Level	Awarding Body
LU Foundation Degree in Engineering	Foundation Degree (240 credits)	Level 5	Lancaster University

Programme Overview

The Foundation Degree in Marine Engineering develops the skills and underpinning knowledge needed for a rewarding career in the international maritime industry. Within world-class learning facilities, we offer an employer-focused programme of study fully aligned to the requirements of both the Maritime and Coastguard Agencies (MCA) and the Merchant Navy Training Board (MNTB). This will support your eligibility for a career as a Marine Engineering Officer. This programme is only available to students sponsored by a shipping company or cadet training provider due to the work-based learning modules, which should be completed on board ships

Admission Criteria

To enrol on the foundation degree you need a minimum of 48 points under the new UCAS tariff system. This must include subjects relevant to Engineering or Mathematics. A GCSE Mathematics Grade B or higher is also required.

Career Options and Progression Opportunities

Successful cadets may be awarded the Engineer Officer of the Watch Unlimited Certificate of Competency, upon successful completion of the full cadetship, and normally will be able to take position of a fourth or third or engineer officer on board of a vessel. After gaining the required sea-going service and completing the appropriate additional training programmes and external exams, they will be able to qualify for a Marine Engineering Management Level Certificate of Competency.

The Foundation Degree Marine Engineering will give successful candidates full academic exemptions for STCW95 Reg III/2 Management Level Engineer Unlimited Engineering Certification when a 50% overall pass mark is achieved. Students choosing to undertake the Foundation Degree Marine Engineering will find the path to Chief Engineer much smoother and will only be required to undertake the relevant industrial exams and short courses.

A variety of positions are also available in the maritime and engineering industries ashore, including ship management, fleet operation, ship broking, marine insurance, finance, ship repair and shipbuilding, equipment manufacturing, port operations, maritime education and training, surveying and inspecting as well as maritime administration. Within engineering, career opportunities exist in but are not limited to power generation, heavy engineering, production engineering and mechanical engineering.

Programme Aims

Foundation Degree

- To develop students with general and specialist engineering knowledge and technical skills. Students will apply marine engineering principles to different situations on board ships, contribute to continuous improvement of systems and keep currency with developments in the industry.
- To provide students with the opportunities to develop and practice problem solving skills, analytical skills and techniques to interact safely and effectively in compliance with legislation in the marine engineering environment.
- To develop effective leadership, communication and interpersonal skills which can be built upon within the work environment.
- To develop students with the knowledge, skills and vocational practices of professional operational management and apply these to the planning, scheduling, resourcing and quality management and improvements required to meet the demands of the marine engineering industry.
- To offer students with an integrated technical and academic programme which develops the academic and digital competencies and skills to support lifelong learning and career progression within the marine engineering industry at sea and ashore.

Programme Learning Outcomes

Level 5

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

1. Apply relevant mathematics to analyse and model different engineering systems
2. Plan, implement and appraise shipboard operations in compliance with industry legislation, regulatory frameworks and standards
3. Reflect on and evaluate processes, procedures and practices of effective shipboard management
4. Research and critically analyse information from a variety of sources to support personal and professional development, and lifelong learning
5. Proficiently use specialist software and simulation equipment related to the maritime industry
6. Analyse engineering systems and discuss their scientific and theoretical principles
7. Apply problem solving techniques to develop innovative solutions to problems encountered in the marine environment
8. Investigate the selection of materials and manufacturing processes used in the marine industry
9. Plan, execute and report on laboratory experiments and workshop practices
10. Communicate effectively in a variety of forms and contexts to a range of audiences

Programme Structure

Module	Level	Credits	%	Category	Description	Length/Word Count	Grading Method
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Study Workload

While each module carries 80 indicative contact hours you will be expected carry out an additional 120 hours self study for each of the modules. This will provide you with the opportunity to reflect on the module and further deepen your knowledge in the subject area. Your college timetable will allow time for self study which is to be utilised effectively, making the most of the college resources.

Programme Delivery: Learning and Teaching

The programme is delivered through a wide range of teaching methodologies to suit every type of learner. You will attend seminars, lectures and simulation exercises in order to gain a deeper understanding of the module content. Students will be provided with the opportunity to work in groups to critically analyse and solve problems and apply knowledge and understanding to a range of tutor and student-defined contexts. Students will have the opportunity to work both independently and with peers in a supervised manner.

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

Assessment will take place in a variety of ways. Some modules, due to industry requirements, will require you to complete a timed examination. Other methods of assessment will include the writing of an assignment on a given topic or case study relevant to the maritime industry.

Assessment will also take place in the Full Mission Engine Room Simulator. Working with your peers you will be required to carry out operations in a shipboard environment and in sometimes stressful situations. Your reflection of the activity will enable you to draw conclusions on how the exercise went and any changes you would make in the future. This will provide valuable experience in working in an environment very close to that on-board a typical vessel and allow you to apply the lessons learnt when stepping on-board your vessel during your sea phase.

Programme Delivery: Work Based and Placement Learning

As a 5 phase programme you will be required to obtain a total of 8 months sea time during phase 2 and 4. Your sponsoring training provider or shipping company will facilitate this. Your time at sea is an opportunity for you to take your underpinning knowledge of marine engineering and apply it in a shipboard context.

On-board ship you can expect to be involved with assisting the day to day running of the engine room. This could include the overhaul of diesel generators, operating engineering plant and machinery, assisting with engineering operations such as bunkering and fresh water production and the attendance at daily engineering team meetings.

During Phase 1, all students will attend a four-day cadet development course, which aims to build their team-working, communication and leadership skills, as well as improve their situational awareness and decision-making capabilities.

Programme Delivery: Graduate Skill Development

A commitment to lifelong learning and career development

The foundation degree in Marine Engineering 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) on board vessels. The proposed programme is a direct result of the maritime labour market analysis. The modules are designed such that it will give learners knowledge and understanding of current and future technological developments.

Collaborative teamwork and leadership skills

During their sea phase learners works as team, communicating with his team members, taking leadership roles when needed, managing groups, and working towards a common goal. In the work based learning module learners analyse the objectives and performance of individuals, the roles and responsibilities and performance of teams and they will present a written report and deliver an oral presentation. Prior to both WBL modules you will receive several workshops and seminars to support and develop the skills required to apply yourself, and engage in learning within the work place.

These will include, but not be limited to:

Level 4

- Project planning and time management
- Application of underpinning knowledge
- Analysis of operations in terms of purpose, process and outcome
- Evaluation of personal performance
- Evaluation of roles and responsibilities
- Reflective writing

Level 5

- Project planning and time management
- Application of technical language and specialist knowledge
- Critical analysis of operations in terms of purpose, process and outcome
- Critical evaluation of personal performance and performance of team
- Critical evaluation of roles and team structure
- Professional reflection

Throughout your work placement phase you will have regular access to support using both identified resources such as books, journals, eBooks and Moodle. In addition you will be able to contact a designated programme team member at College who will aim to support your needs in liaison with other programme team members and respond to you in an appropriate time frame. This will ensure you only encounter one staff member and ensure consistency of communications. For those engaging in work placement on board a vessel through your sponsoring shipping company, you will also have dedicated support on board in the form of a Designated Shipboard Training Officer (DSTO) who will aim to support your education and training needs in conjunction with your Company Training Officer (CTO). In the most part this will be to support the development of your vocational skills and complete your Training Record Book (TRB), however, the engagement in WBL will enhance your vocational awareness and the vocational training will support the experience required for your WBL modules.

Personal and intellectual autonomy

We support your development of independence in academic and practical skills through the levels of 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 a foundation degree set by Merchant Navy Training Board (MNTB) ensures that the module delivery and assessment considers legal, social and ethical issues to enhance learner's professional development. Learners 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 Digital Literacies module provides the foundations for developing these skills which are then applied in assessments throughout the programme. This will assist them 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 students 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 their specialist area.

Global citizenship

To build your global skills and competency, the programme was developed liaised with international maritime companies likes Princess Cruises, BP, Chiltern Maritime, Shell and V ships. The department have got close links with Kuwait Shipping Companies. The foundation degree is delivered by faculty, from electrical engineering department, mechanical engineering department, marine management department and mathematics departments, who have different ethnic and cultural background. By bringing faculty together from different academic background students explore global markets in marine industry, marine laws, and marine technological developments globally.

Research, scholarship and enquiry skills

Learners in Foundation Degree will be facing a new culture of working in research projects in the marine engineering field. The assignments will be led and managed by you in an area including significant research and development with limited supervision; this will enable you to independently research unfamiliar concepts effectively. This will help to broaden learner's perspective and will enable them to researchers and technologists.

Enterprise and entrepreneurial awareness and capabilities

Blackpool and The Fylde College believes that students should be entrepreneurial in order to understand the global market well and handle business pressures. The Legislation and Leadership module and Work based learning modules outlines the tools, attitudes and knowledge needed for it. The units are designed as per the feedback and inputs from industry. The Work Based Learning Management level module prepares students for role of managers. Students learn the basics of maritime business, learn how to support employees to be more innovators, how to manage interdisciplinary teams, how to communicate effectively and how to think critically, which are the key attributes for a successful entrepreneur.

Study Costs: Equipment Requirements

You are expected to provide your own day-to-day stationary items, e.g. pens, pencils, notebooks, etc). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile. Candidates will need calculators as specified by the rubric of individual module and as permitted by the college. The college approved models are Casio FX-570 and Casio FX-85GT Plus. These may be purchased from any source. You will require access to a computer or laptop with internet access. Learning Resources are provided on-site and free for students to use Monday to Friday. Other equipment during your programme will include personal protective equipment for workshops, such as boots, gloves and overalls are provided by the college.

Study Costs: Additional Costs

In some cases, coursework and/or projects may be submitted electronically. Where it is not possible to submit electronically you will be liable for printing costs. There may be opportunities for field trips to conferences, exhibitions or for other interests. This is done through negotiation as new venues/locations/trips must be risk assessed and approved.

Related Courses

If Marine Engineering isn't for you but still want a career at sea, the Foundation Degree Nautical Science programme also delivered a Fleetwood Nautical Campus may be for you. This is the route for those wanting to become a Deck Officer in charge of the safe navigation and passage of the vessel.

You may also be interested in the Foundation Degree Electrical and Electronic Engineering programme which develops the skills required to become a certificated shipboard Electro-Technical Officer.