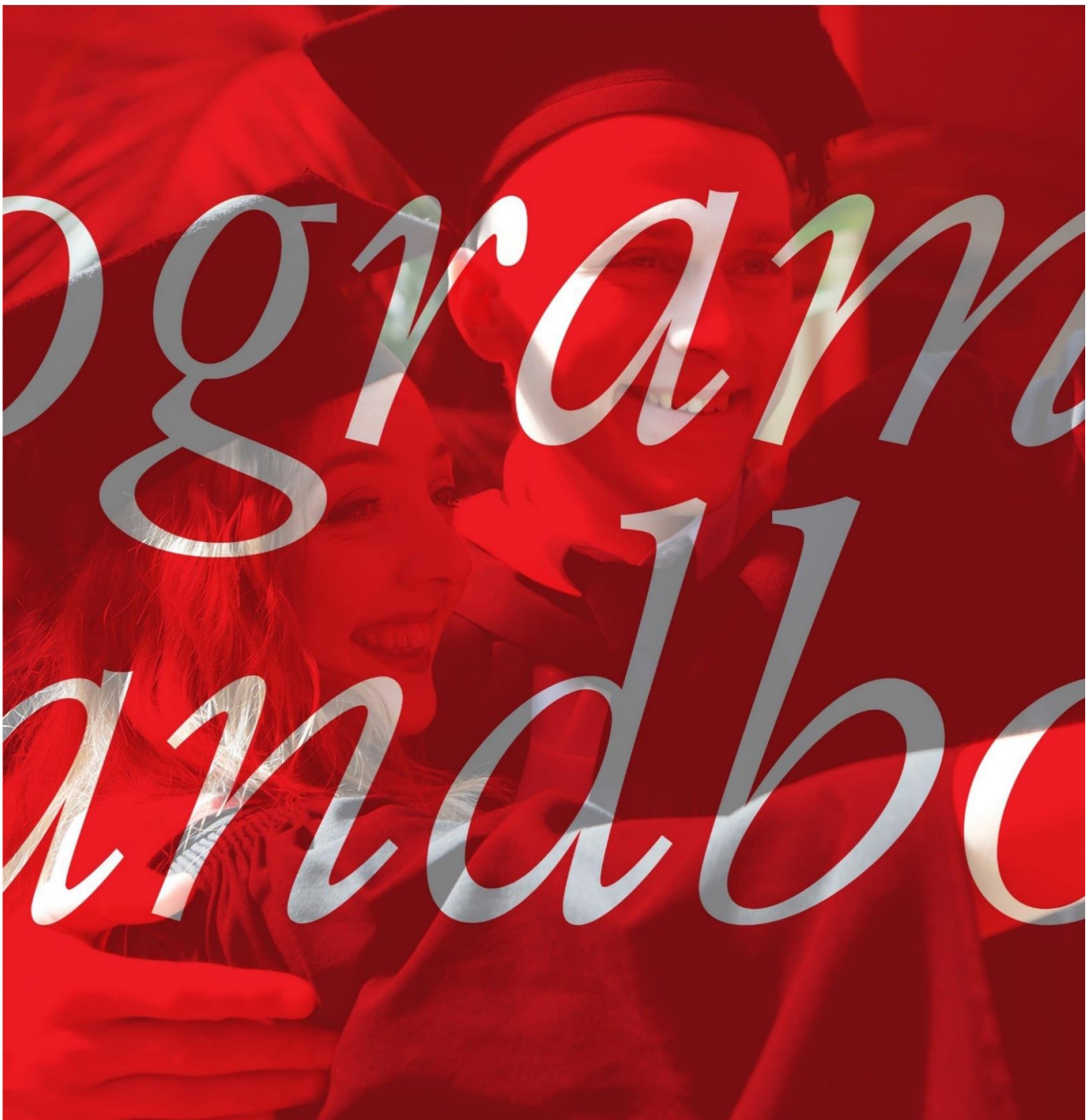


Programme Handbook 2020-21

Engineering (Mechatronics Engineering)

ENG-MT-2017



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WELCOME

Welcome to Blackpool and The Fylde College and to the Engineering (Mechatronics Engineering) (ENG-MT-2017) programme.

This **Programme Handbook** aims to provide you with the key information you will need to settle into and get the most out of your programme of study here at the College leading to successful completion of your programme. It will provide you with an overview of the programme content, how individual modules are organised and delivered, how and when you will be assessed and how overall grades final results are determined. In addition there is information on the help and general support available to you as well as making it clear what you need to do if you should encounter any specific difficulties in progressing as planned on the programme.

There is also further information available on the B&FC [Student SharePoint](#) site which includes an overview of the College partners and how they will support you on your journey, alongside key information on College facilities, student representation and events you can get involved in. Guidance on term times, Travel to College, Attendance Expectations can be accessed through the College website and Canvas, your virtual learning environment (VLE).

It is strongly recommended that you refer to your **Programme Handbook** and **Student SharePoint** to ensure that you get the most out of the time you will have invested in participating in your valuable and hopefully enjoyable learning experience.

We appreciate that as students in order for materials to be fully accessible you may have a preference for a specific font size or colour of text/paper. To ensure that your needs are considered this handbook is available electronically.

Studying with B&FC from September 2020

B&FC has implemented a series of wide-ranging measures ensuring you will enjoy the best possible learning experiences in the safest, healthiest way.

From September 2020, students will continue to be provided with a vibrant learning environment using a mixture of campus-based and online teaching in line with the latest Government advice. While many lectures and assessments will mostly take place online, there will be some socially-distanced small-group teaching sessions and limited risk assessed access to laboratories, arts studios, performance spaces and specialist teaching facilities.

More information can be found on the B&FC website through the following links:

- [Studying with B&FC from September 2020](#)
- [HE Student FAQs](#)

GENERAL INFORMATION ABOUT YOUR PROGRAMME

Programme Code	ENG-MT-2017
Programme Title	Engineering (Mechatronics Engineering)
Teaching Institution	Blackpool and The Fylde College
Professional, Statutory and Regulatory Body (PSRB) Accreditation	None
UCAS Code	
Language of Study	English
Version	2

Programme Awards

Award	Award Type	Level	Awarding Body
LU Bachelor of Engineering with Honours	Honours Degree (360 credits)	Level 6	Lancaster University

THE FRAMEWORK FOR HIGHER EDUCATION QUALIFICATIONS (FHEQ)

The Framework for Higher Education Qualifications (FHEQ) ensures the comparability of Higher Education qualifications in England, Wales and Northern Ireland. The framework describes the achievement represented by qualifications and the various awards which may be granted by a Higher Education provider with degree awarding powers. All students pursuing Higher Education programmes at Blackpool and The Fylde College are awarded qualifications aligned to the FHEQ upon successful completion of their programme.

Level	4	5	6	7	8
FHEQ Level	Certificate (C)	Intermediate (I)	Honours (H)	Masters (M)	Doctoral (D)
About this level of qualification	Level 4 These qualifications are work-related (vocational) higher education qualifications. While bachelors degrees tend to focus on gaining knowledge, HNCs are designed to give you the skills to put that knowledge to effective use in a particular job.	Level 5 These qualifications are designed to equip you for a particular area of work – as well as giving you the general skills that are useful in any type of job. They're university-level qualifications, but are designed with work in mind, with the help of employers from that sector.	Level 6 These qualifications are designed to give you a thorough understanding of a subject. They help you develop your analytical, intellectual and essay or dissertation writing skills. You'll also have much more of a say about the direction your learning takes than you've had previously.	Level 7 These qualifications are of academic study. They can be research based, a taught course, or a mixture of both, and will take at least 12 months of full-time study to complete. You may also have to submit a dissertation at the end of your course.	Level 8 This level gives you the opportunity to undertake an original piece of research. It will usually take at least three years of full-time study to complete. Many doctorate courses lead to a qualification such as a Doctor of Philosophy – a PhD or Dphil.
Qualifications that are available at this level	Higher National Certificates (HNC) Foundation Studies (FS) Diploma	Higher National Diplomas (HND) Foundation Degrees (FD) Diploma of Higher Education (DipHE)	Bachelor Degrees (BA, BSc) Bachelor Degrees with Honours (BA Hons.) Professional Graduate Certificates in Education (PGCE)	Masters Degrees (MA, MSc) Postgraduate Certificates and Diplomas Post Graduate Certificates in Education (PGCE)	Doctoral Degrees

PROGRAMME OVERVIEW

Mechatronics encompasses the study of mechanical, electrical / electronic and control engineering and originates from the need to deal with ever more complex technological systems. It is a multidisciplinary field, which means that it incorporates knowledge from several engineering fields into one.

Mechatronics engineers develop a synergistic approach to the various fields they work in to produce optimized, reliable and economical systems or products. Many work in robotics and in innovative high-tech companies.

Through consultation with local employers, we have developed a highly industry-relevant programme in Mechatronics that delivers the knowledge, experience and general transferable skills required for employment in this broad and exciting field that produces the technological innovations of the future. Our BEng (Hons) Mechatronics Engineering programme will provide you with core principles of engineering and specialist Mechatronics knowledge. You will have the opportunity to customise your course to follow a Mechatronics pathway, after you have sampled core engineering subjects.

The course consists of core common modules at Level 4 and then develops with more subject

specialisms at Levels 5 and 6. Opportunities to explore software and practical subject areas such as computer aided design, microprocessors and controls & simulation are embedded within the modules to enable a blend of practical and theoretical experiences to enhance employability.

A current shortage of skilled Mechatronics engineers means there are excellent career opportunities for talented engineering graduates as design, production and project engineers within a variety of sectors. Many of our graduates are now employed by major companies such as EDF Energy, Westinghouse Springfields, BAE Systems, Airbus, NIC, GCE and Ford Motor Company as design, production, project or research and development engineers.

PROGRAMME AIMS

- To train professional mechatronics engineers who synergistically apply mathematics, mechanical, electrical and electronics as well as computer engineering and scientific principles and knowledge with confidence in solution to engineering problems.
- To train mechatronics engineers with a broad range of skills and in-depth knowledge of connected disciplines, such as electrical and electronic and mechanical engineering, and an understanding of how they come together in various fields.
- To explore new developments in the field of mechatronics research and advanced technologies, manufacturing, embedded systems to enable students to become proficient engineers with a robust foundation.
- To acquire knowledge, analyse and evaluate new developments in mechatronics and related engineering fields as they emerge and to apply these appropriately in creative, innovative solutions to problems.
- To provide transferable knowledge and skills to enable graduates to engage fully in design, research, development, testing and deployment of mechatronics systems across all spheres of life and enhance lives and technological performance of communities and human-made systems.
- To produce adaptable professional engineers who have the capacity to work at a high standard within a wide range of sectors.
- To educate a network of mechatronics engineers in sustainability, ecological awareness, health and safety and who take responsibility for lifelong learning, as well as the success and growth of their profession and community.
- To provide students with the opportunity to gain a critical and informed awareness of contemporary issues, legislation, problems and opportunities afforded by a focus upon engineering in recognition of the impact of the demands of industry, especially as regards ethical considerations in device development, robotics, AI and other future advances in engineering.
- To provide academic, technical and personal development through a variety of learning experiences, in particular, the development of communication skills and capability of critical analysis, problem solving, the presentation and justification of rational argument and alternative courses of action.
- To facilitate the opportunity to pursue the level of study which will enable students to critically review, consolidate and extend a systematic and coherent body of knowledge, by utilising specialised skills across an area of study.
- To enable students to critically evaluate concepts and evidence from a range of sources, to transfer and apply diagnostic and creative skills and exercise significant judgement in a range of situations, accepting responsibility and accountability for determining and achieving personal and/or group outcomes.

PROGRAMME LEARNING OUTCOMES

Level 6

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

1. Work in teams, managing tasks and resources to meet changing technical and managerial needs which support continuous quality improvement
2. Use interpersonal skills to communicate technical and non-technical information to a variety of audiences
3. Apply ethical principles to sustainable professional practices in an engineering context which recognise obligations to society, the profession and the environment
4. Critically analyse and evaluate complex systems and their interdependencies through the application of systems thinking and the integration of approaches from multiple engineering disciplines
5. Independently plan, manage and execute a technically and theoretically informed project, which spans all engineering disciplines and analyses engineering problems across mechanical, electronic, electrical, computer, systems and industrial engineering, and proposes engineering solutions that broadly deepen knowledge and skills base
6. Utilise a multidisciplinary approach to engineering through adaptations of essential facts, concepts, theories and fundamentals, supported by a sound scientific and mathematical foundation
7. Problem solve, communicate and work collaboratively with others and independently to develop innovative ideas and new ways of thinking to support the development of business practices and scientific knowledge
8. Use advanced software and hardware to collaboratively or independently plan, design, and develop products
9. Utilise mechatronics technical expertise, knowledge and skills in a wider multidisciplinary engineering context to advance industry and technology fields by identifying relationships between engineering fields and mechatronic engineering
10. Engineer creatively and innovatively emerging technologies to enhance and develop quantitative science and its applications
11. Design, implement or create embedded, multifunction solutions that incorporate safe, sustainable and durable materials, and that operate to the advantage and benefit of users
12. Apply knowledge and methods from a range of engineering disciplines to solve problems, effectuate repairs, or build new technologies
13. Evaluate impacts of mechatronics on the environment, the social and economic landscape of communities and regions, as well as the ethical concerns that might arise from engineering solutions
14. Analyse the need for new applications and techniques from a multifaceted perspective so as to produce highly competitive, innovative, integrated and advanced technologies
15. Critically integrate of methods, processes and techniques across engineering fields
16. Critically evaluate industry standards by seeking further integration of systems, principles, methods and tools

PROGRAMME STRUCTURE & ASSESSMENT OVERVIEW

Pathway	Module	Level	Credits	Coursework	Practical	Written Exam
Stage 1: Year 1						
All	B4SCENG-MT: Introduction to Academic Study (Mandatory)	4	20	60%	40%	
	ENG402: Engineering Science (Mandatory)	4	20	100%		
	ENG403: Managing a Professional Engineering Project (Mandatory)	4	20	90%	10%	
	ENG404: Engineering Mathematics (Mandatory)	4	20	60%		40%
	ENG405: Computer Aided Design (Mandatory)	4	20	100%		
	ENG406: Engineering Design (Mandatory)	4	20	80%	20%	
Stage 2: Year 2						
Stage exit award: LU Diploma of Higher Education (Awarded by Lancaster University)						
All	ENG501: Further Engineering Mathematics (Mandatory)	5	20	50%		50%
	ENG502: Professional Engineering Management (Mandatory)	5	20	100%		
	ENG503: Research Project (Mandatory)	5	20	100%		
	ENG504: Engineering Dynamics (Mandatory)	5	20	50%		50%
	ENG521: Mechatronic Systems (Mandatory)	5	20	30%	70%	
	ENG522: Electrical and Electronic Systems (Mandatory)	5	20	50%		50%
Stage 3: Year 3						
Stage award: LU Bachelor of Engineering with Honours (Awarded by Lancaster University)						
All	ENG601: Dissertation (Mandatory)	6	40	85%	15%	
	ENG602: Professional Engineer (Mandatory)	6	20	100%		
	ENG603: Control and Simulation (Mandatory)	6	20	40%		60%
	ENG621: Microprocessors and Microcontrollers (Mandatory)	6	20	50%		50%
	ENG622: Electrical Power (Mandatory)	6	20	40%		60%

WHERE WILL I STUDY?

This programme may be studied at the following location:

B&FC Bispham Campus

Courses in Construction, Engineering and Automotive are delivered at our Bispham Campus. Here you can access a central reception, vital student support functions and a convenient number of retail outlets all within one attractive Hub development. Bispham Campus has recently been the focus of a stunning £3.5m upgrade, with the result that it is now dramatically more energy efficient, along with the multi-million pound development of the Advanced Technology Centre. The Bispham campus hosts a range of specialist equipment and facilities tailored towards computing, engineering and construction.

GETTING STARTED

At the start of your course, your tutors will guide you through an initial induction which is designed to ease you into university life and higher level studies. Activities generally focus on helping you to find your feet, make friends and plan your studies. It can also traditionally be the time when students get to let their hair down and familiarise themselves with both the College and the local area before getting down to the more serious business of studying.

Our annual Freshers' Fair is a fun, vibrant event and a great chance to find out more about what's on offer locally, with representatives from the B&FC Student Union, Higher Education Learning Mentors (HELMs), The Loop LRC, Careers Team and our Disability team who can provide information on Disabled Students' Allowances, access arrangements and reasonable adjustments. Representatives from local attractions, restaurants, health and fitness centres, clubs, bars and more will also be there. Support organisations and charities are represented too, along with B&FC's own clubs and societies and sports teams.

COURSE OPTIONS

The programme is offered on a full-time basis, however there is also opportunity for employees to enter the programme at level 5 with a suitable entry qualification and study on a part time basis to align with employment needs:

- Full time - typically 2-3 days per week over 3 years
- Part time - typically 1 day per week over 3 years (with direct entry to Level 5 via a suitable HNC/D).

Please note: Level 4 is delivered on a full-time basis only. We offer an alternative part-time HNC route onto the degree programme also if required.

Our BEng programme starts with a range of common core modules at Level 4. You will then continue onto specialist modules at Levels 5 and 6.

STUDY WORKLOAD

This programme requires commitment to attend lectures and workshops at Bispham Campus 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.

The programme is offered on a full time basis which will typically require attendance on campus for two full days per week over three years.

A part time pathway can be followed from level 5 onwards, which would typically require attendance on

campus one full (long) day per week over 3 years.

As well as attendance to lectures, 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. Each student needs a different amount of independent study, which will depend on the individual profile and needs. Our tutors can help you with advice and support.

LEARNING AND TEACHING

The course will be delivered using a range of methods, which may include informal lectures, tutor-led whole group discussions, student presentations, technical workshops, computer laboratory activities, group work, group and individual research and seminars. Modules are designed to integrate practical and theoretical application, so software and laboratory equipment will be regularly introduced by tutors and applied at relevant points within your studies.

You will significantly benefit from relatively small class sizes and a warm and friendly learning environment which encourages effective group interaction. Tutors are very accessible and supportive which will enhance your learning experience.

You will have access to outstanding specialist facilities and equipment including our Advanced Technology Centre (new in 2015) abounding with industry standard equipment and software relevant to your future engineering career.

Independent Learning

All higher education programmes are designed so that you are able to progressively develop independent learning skills and aptitudes. Learning independently is a key skill of all graduates when they enter the work place and one which we aim to develop further during your time with us.

As you begin your programme you will be more intensively supported to develop the skills of learning and learning how to learn. As you progress you will be given the opportunity to apply these skills and to manage your own study time and activities with the goal of becoming a truly independent learner ready to get the most out of graduate employment opportunities.

Your Personal Development planning activities are a key component in developing these independent learning skills and your tutors, support mentors and peers can help you to organise and structure this aspect of your learning and development.

WORK BASED AND PLACEMENT LEARNING

The programme has been designed to carefully align with industrial need. You are strongly encouraged to gain work experience, via summer internships, short courses in industry, and industrial visits. Although work placement is not an integral part of the programme, we regularly invite guest speakers, employers and previous students at relevant points throughout your studies to integrate the academic and work based experience.

Case studies of workplaces and employment will be embedded within specific modules and will feature throughout the programme, as will the development of aligning attitudes and behaviours expected of a Professional Engineer.

GRADUATE SKILL DEVELOPMENT

The BEng Mechatronics programme offers you the opportunity to experience and develop a range of skills related to the discipline. These include accessing and evaluating information from a range of technical sources and communicating findings in a range of ways suitable to engineering.

Modules are designed to develop your existing skills to enable you to become independent engineers

and will provide the basis for a successful career in engineering, developed through industry and academic research and enquiry. Further skills in technical information analysis and application will be developed during the delivery of the programme content through lectures, guest speakers and research into engineering systems, sub-systems and approaches.

Level 4

- **Collaborative teamwork and leadership skills:** Academic and Digital Literacy and Managing a Professional Engineering Project are the two modules that will require you to build solid teamwork and leadership skills. Collaborative projects and assignments will help you enhance and practice this skill set. You will use these skills throughout your studies and across all other modules.
- **Communication, information and digital literacies:** Computer Aided Design, as well as project and academic literacy work will enhance your communication skills at all levels. Along with the Academic and Digital Literacy module. You will pay attention to how you gather and analyze data, what information is relevant and how to use it and present it effectively and professionally.
- **Personal and intellectual autonomy:** Throughout all modules at this level, you will have to learn to become increasingly independent and self-reliant while continuing to participate in group and teamwork. Engineering Mathematics and Engineering Design specifically require a considerable amount of individual work. It is imperative that you gain autonomy at this stage so as to be able to cope with work on Level 5.

During Level 4 study, you will experience a wide-range of the general engineering curriculum across 6 core modules: including mechanical engineering, electrical and electronic engineering, applied mathematics, engineering design and computer aided engineering. These modules are supported by project and laboratory work and also educational study skills. This broader approach, allows you to sample engineering disciplines so you can switch to an alternative engineering discipline if you choose to do so at the end of this stage. It also ensures that you have a solid grounding in digital literacy, ethical considerations and develop an appetite for lifelong learning which you will carry through into subsequent years and hopefully further study.

Level 5

- **Ethical, social and professional understanding:** With the module Professional Engineering Management as well as with the specialty modules Mechatronic Systems, Electrical and Electronic Systems, and Engineering Dynamics, you will gain a considerable amount of professional skill and understanding and will begin to apply mechanical engineering principles to various engineering problems. These will include issues that may have ethical, social, community impacts and you will need to consider these in your work.
- **Global citizenship:** the modules at Level 5 all consider issues of global importance and the examples that you will cover in specialist modules will usually related to issues such as sustainability, innovation, finding suitable solutions to problems arising from an increasingly global society.
- **Enterprise and entrepreneurial awareness and capabilities:** Professional Engineering Management, Research Project, and Computer-Aided Design along with the other professional modules will expand your entrepreneurial awareness and options in this field. Your Level 4 knowledge and skills will be backed up by specialist modules at this level. You will gain insight into the various options that individual or team enterprises have and how you can innovate and create.

At Level 5, there are four core modules and two subject specialist modules. Group and team working will be an inherent part of the programme within your engineering project, allowing peer and self-assessment approaches to be introduced, developing essential communication, ethical awareness and management characteristics. You will continue to apply the principles studied at Level 4 and develop your knowledge and skills in more specialized areas such as engineering dynamics, computer aided design and electrical & electronic systems.

Level 6

Research, scholarship and enquiry skills: You will be applying all other skills and attributes acquired

at Level 3 and 4 to the Dissertation module which will build your research, scholarship and enquiry skills to produce an original piece of research on a topic of interest to your field. You will also use them in the module Professional Engineer and across all specialist modules at this level.

A commitment to lifelong learning and career development: At this stage you will already be familiar with the many options Mechanical Engineering presents and you will be expected to have an awareness of the professional development path you would like to pursue. Your tutors will help you with advice. Of particular importance are the modules Control and Simulation, Electrical Power, and Microprocessors and Microcontrollers, which will allow you to expand your professional skills and knowledge and will help you pick a direction for lifelong learning and development. It is also important to remain aware of other topics within the field that you will be able to explore when you graduate.

During Level 6 of the programme, you will experience 5 modules in highly focused areas such as: electrical power, microprocessors & controllers, controls & simulation. You will explore and critically analyse the engineering environment within the 'Professional Engineer' module. You will also undertake a dissertation project based on a significant specific engineering project aligned to your interests that will shape and further define your specialized route into your chosen career.

There is a strong emphasis on employability and enhancement of graduate skills in all years of the BEng programmes. From Level 4 study onwards, personal development plans (PDP's) will be driven through a tutorial system and will focus on identifying the skills and attributes of graduate engineers as employees, with the formulation and setting of action plans to achieve them. Teaching, learning and assessment methods allow development of key transferable skills such as problem solving, ethics and globalization through communication and digital literacy. The production of assessment work in varied formats such as engineering reports, essays, oral presentations and discussions will contextualize the communication and cognitive requirements of modern employable engineers.

ASSESSMENT

Various modes of assessment will be used in different modules to ensure all aspects of learning are assessed and that you are competent in different forms of demonstrating your knowledge. These will range from real world case studies, live presentations and briefing sessions, written assessments, computer aided design projects and written examinations. You will be supported in the preparation for assessments via readily available tutorial sessions and tutor support.

Assessment Methods

Some assessments may already be very familiar, such as essays, exams, and reports. However, in higher education there are a great many varieties of assessment depending on the subject, the level and the type of course. Our higher education courses often integrate academic and work-based learning so assessment may include aspects of personal reflection, portfolio building and case studies. Here's a bit more detail about some of the more common types of assessment:

Essay

An essay is an answer to a question in the form of continuous, connected prose, usually with a word limit. Often these are set by the tutors but you may also be asked to formulate your own question with the tutor's help. Essays test your ability to organise your thinking, discuss, evaluate, analyse, summarise and criticise. They also test your skills at making essay plans and reaching a robust conclusion or decision.

Assignment or brief

An assignment or brief is a learning task that allows you to cover a fixed section of the curriculum predominantly through independent study. Different methods of presenting the results can be used dependent on the nature of the task - a report (oral or written), a design solution, a newspaper or magazine article, a video, a poster, a research bid, a book review, a contribution to a debate, etc.

Group project or assignment

This is where either an assignment or project is undertaken by groups of students working

collaboratively, helping to develop team working skills and other graduate attributes. In some cases, particularly where the same thing happens in industry, there are particular assignments that can by definition only be achieved in a group. Such assessments will incorporate mechanisms which allow the tutor to assess the contribution of individual members of the group or team in order to allocate individuals with a personalised assessment grade.

Exams

Exams can take a variety of different forms, with the most common sort being done under timed and observed conditions to ensure it is the student's own work. Exams test your ability to think critically, to respond in a structured way to a question and to plan on the spot as well as your knowledge and understanding of the subject. Some of the most common types of exams are:

- 'Seen' where the questions to be answered are given at a pre-specified date beforehand. The intention is to reduce the need for 'question-spotting', to reduce the anxiety and to increase the emphasis on learning
- 'Open-book', where you will have access to specified texts and/or your notes. the intention is to reduce the emphasis on memorising facts, to reduce anxiety and allow more demanding questions to be set
- 'Unseen' where you don't know what the questions are until you sit the exam. Arguably these make you focus on the whole syllabus because anything may appear on the paper
- Multiple choice exams where you simply select from a bank of potential answers. These also assess your decision making skills

Logs and Portfolios

These are an increasingly popular kind of assessment, and involve a collection of all sorts of evidence of your work (often including others' testimony about your work, and feedback you've collected). Portfolios are intended to be a measure of the work of the 'whole candidate', rather than just particular aspects of the candidate's work. They also measure your ability to organise a collection of evidence, in a readable, navigable way. Not least, they test your ability to stick to deadlines with a big, multifaceted job.

Reports

There are many kinds of reports – laboratory ones, field-trip ones, business ones, and so on – each has its own conventions and preferred formats – your tutors will tell you more. Assessed reports measure your skills at finding out about, and adhering to, the expected report formats and conventions in your subject discipline. They also measure your ability to put forward an organised piece of writing, coming to conclusions, making suggestions for further work, and so on. They often test your skills at interpreting data, making sense of your findings, and so on.

Calculations and problem solving

Usually given in sets – with a deadline for tutor marking, or to bring along completed to a tutorial. These, unsurprisingly, tend to measure your ability to solve problems and do calculations.

Presentations

Lots of students worry about presentations – you normally build up to these as your course progresses and you'll be given lots of support and time to prepare. You may be involved in group or solo presentations, perhaps to some or all of your class, usually with the tutor present. Sometimes peer assessment is used. Presentations measure your ability to talk fluently about a topic, and to answer questions from the group. They also measure your skills at preparing visual aids (overheads, handouts, PowerPoint presentations) to support your presentation. On some courses there are very few presentations. However, in the workplace, more and more people have to be involved in them, so practising on your course is a very good way of developing your skills.

Self and peer assessment

There is strong evidence that involving students in the assessment process can have very definite educational benefits. Not so much a type of assessment like those already listed, this is something which can be done in conjunction with any type of assessment. The important aspect is that it involves the student in trying to apply the assessment criteria for themselves. This might include: a marking exercise on 'fictitious' or previous years' student work; the completion of a self-assessment sheet to be handed in with your work; 'marking' a peer's work and giving them feedback (which they can then

possibly redraft before submission to the tutor); or really marking other students' work (i.e. allocating marks which actually count in some way) - a seminar presentation, for example, or a written product using a model answer. The evidence is that through trying to apply criteria, or mark using a model answer, you will gain much greater insight in to what is actually being required and subsequently your own work improves in the light of this.

When will I be assessed?

In the majority of courses you will be assessed throughout your course and you will receive on-going feedback to help you develop academically. This is sometimes called formative assessment and is designed to help you learn as you go through your course. Some formative assessment is quite informal; it may be your tutor asking specific questions in class, for example. Other types of formative assessment can include written reports, essays, tasks for seminars etc., some of which are handed in so that written feedback can be provided. You will also be assessed summatively. This just means that in each module or unit, often at the end, you will complete work that is then graded, where the mark counts towards your final qualification.

At the start of your course you will be given an **assessment schedule** which details the deadlines for the assessments in all the modules you will be studying. This will help you to plan your work effectively. Your tutors understand that you have lots of commitments so will always try to spread the assessments out as much as they can, although inevitably many will come towards the end of each semester.

How will my work be marked and graded?

The majority of your assessments will be awarded a letter grade as outlined in the table below. Some of your assessments may however be assessed by percentages, which are converted into an aggregation score. Some assessments may also be identified as pass/fail assessments. Such assessments must be successfully passed in order to pass the module, however the aggregate score for the module will be derived from other assessments which are graded. Overall, you must achieve an aggregation score of 9 or above to pass a module.

Further information is available at: <http://www.blackpool.ac.uk/he-regulations>

Category	Grade	Aggregation Score	Grade Description
Excellent Pass	A+	24	Exemplary range and depth of attainment of intended learning outcomes, secured by discriminating command of a comprehensive range of relevant materials and analyses, and by deployment of considered judgement relating to key issues, concepts and procedures
	A	21	
	A-	18	
Good Pass	B+	17	Conclusive attainment of virtually all intended learning outcomes, clearly grounded on a close familiarity with a wide range of supporting evidence, constructively utilised to reveal appreciable depth of understanding
	B	16	
	B-	15	
Satisfactory Pass	C+	14	Clear attainment of most of the intended learning outcomes, some more securely grasped than others, resting on a circumscribed range of evidence and displaying a variable depth of understanding
	C	13	
	C-	12	
Weak Pass	D+	11	Acceptable attainment of intended learning outcomes, displaying a qualified familiarity with a minimally sufficient range of relevant materials, and a grasp of the analytical issues and concepts which is generally reasonable, albeit insecure
	D	10	
	D-	9	
Marginal Fail	F1	7	Attainment deficient in respect of specific intended learning outcomes, with mixed evidence as to the depth of knowledge and weak deployment of arguments or deficient manipulation
Fail	F2	4	Attainment of intended learning outcomes appreciably deficient in critical respects, lacking secure basis in relevant factual and analytical dimensions
Poor Fail	F3	2	Attainment of intended learning outcomes appreciably deficient in respect of nearly all intended learning outcomes, with irrelevant use of materials and incomplete and flawed explanation
Very poor Fail	F4	0	No convincing evidence of attainment of any intended learning outcomes, such treatment of the subject as is in evidence being directionless and fragmentary

What if I experience circumstances which mean I will not be able to complete an assessment?

The Personal Mitigating Circumstance (PMC) procedure gives you the opportunity to inform the College of serious medical or personal circumstances, which you believe, have affected your academic performance in an adverse way before the meeting of the Board of Examiners.

You may have had genuine and unavoidable circumstances that have affected your performance in coursework. These circumstances may have prevented you from being assessed or from submitting coursework on time. In all cases, it is important that you contact the HELM team at HELMinfo@blackpool.ac.uk to say that you are having difficulty completing work and are planning to apply for PMC.

A Personal Mitigating Circumstance Application Form must be completed by you and is available via the College website / Student Administration / Reception. It is your responsibility to complete and submit the form to the HE Student Administration Manager within 10 days of the assessment deadline.

You cannot request an extension to the assignment deadline date. Assignments must be handed in as soon as possible even if they are incomplete. If your PMC application is approved, you will be given an amended deadline and the opportunity to improve your work further.

For full details of this procedure please refer to: <http://www.blackpool.ac.uk/he-regulations>

What if I miss a deadline?

Managing your time effectively is a key graduate skill and you are therefore encouraged to plan your programme workload alongside your other commitments. If you fail to meet an assessment deadline, it will be penalised. Work submitted up to three days late will receive a penalty of one full grade and zero (non-submission) thereafter.

Deadlines are normally set on Mondays and Fridays to avoid the third day occurring at a weekend. Where the third day does fall on a weekend, students will have until 10 am on Monday to hand in without receiving further penalty. The penalties associated with the late submission of percentage coursework are outlined in the academic regulations for your programme.

For more information, please refer to: <http://www.blackpool.ac.uk/he-regulations>

What happens if I fail a module?

Most students pass their work, but if your mark for an individual module is less than the minimum pass grade you will be referred on that module. This means that you will have to be reassessed in the relevant work, however a second attempt will be subject to a penalty as specified within the academic regulations for your programme.

Where Personal Mitigating Circumstances are approved, this will typically prevent any penalties being applied and usually allow the work submitted to be marked as a first attempt.

Moderation

All work that you submit for assessment is marked by your module tutor. A suitable sample is then selected to be moderated by another tutor. This is to ensure that the mark awarded is reliable and not just the judgement of one marker. All of the work you submit is retained by the College to assist our external examiners in the quality assurance of your programme. This may mean that the results you receive during the year may change and should therefore be considered provisional.

External Examiners

Every higher education programme has its own External Examiner whose role is to support the academic staff team in ensuring that the standard of your programme of study is comparable to other programmes in that subject discipline. The External Examiner will confirm that the work that you have produced is of a standard that is expected and identifies any issues that the academic staff team needs to take into account to continually improve the programme. The External Examiner also feeds back on the key strengths that make your programme a really effective and valuable learning experience.

External Examiner reports for your programme can be requested by emailing highereducation@blackpool.ac.uk

Board of Examiners

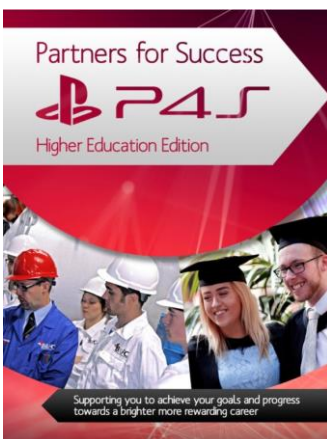
Once a module is complete, the marks for all assessments are compiled together to create an overall module mark.

The module board of examiners sits at the end of each semester to consider modules in scope. Your overall marks for the year are considered by a programme board of examiners that will make recommendations regarding your progression between levels, reassessment and eventually the award of your qualification. The majority of programmes within the college run an academic year between September and June. Reassessment work will therefore normally be completed during the summer months and submitted by the end of July (the precise date is set by the board).

The board of examiners sits again prior to the start of the next academic year in September where the results of any summer reassessment work will be considered.

Where programmes fall outside of the standard academic year, the timing of the board identified above may vary, however the general process remains the same.

PARTNERS FOR SUCCESS



The Partners for Success framework has been developed from our considerable achievements and successful review outcomes in supporting students and ensuring that they are provided with the best possible opportunities to engage fully with their learning experience and the full life of the college. It outlines how staff, students and the wider college community work to provide a seamless network of support to enable all students to achieve their potential.

Studying at University level can mean quite a life change, particularly if you have to move away from home, juggle study with work or have caring responsibilities while studying. You may also be returning to study after a period away and feel unsure exactly what to expect. Most students new to higher level study also comment on the fact that it can be quite different to their previous studies.

Our central aim is to enable all students to become confident and competent independent learners and achieve to the maximum of their potential through the development of their academic skills, personal well-being, literacies and professional employability attributes.

- We will work in partnership with all stakeholders, students, staff and others to ensure and assure personal change and development through mutual expectations, mutual agency and clear communications.
- We will provide students with a network of support to enable their development and achievement of their personal, academic and professional goals

Key partners in your success are:

- Your Progress Tutor and the programme delivery team
- Careers team
- Student Support and Wellbeing including HE Learning Mentors (HELMs)
- Learning Resource Centre teams

- Student Union
- You!

Your Progress Tutor and the programme delivery team

Here at Blackpool and the Fylde College every student is entitled to receive tutorial support on their programme of study. Tutorials are an important learning activity; they give you the opportunity to engage in dialogue with your tutor on matters of academic progress as well as personal and pastoral issues which may impact on your learning experience.

The benefits of tutorials are that they help you to individualise your learning on programme and to receive constructive feedback on your work specifically and progress generally. Tutorials are an essential component of the B&FC Partners for Success framework which aims to enable your personal and academic development, and maximize your opportunities for success, through coordinating the range of support services available to you through your progress tutor. Tutorials can help you to critically engage with your subject in a way that you may not be able to do in lectures and other forms of learning. Your tutors will encourage creativity and originality of thought that will help you to gain a better understanding of the subject discipline helping you to achieve your potential and experience high levels of success.

You can ensure that you get the most out of tutorials by:

- Proactively seeking out information before the tutorial to prepare yourself for the discussion and dialogue
- Actively engaging in discussion with your tutor.
- Using the tutorial opportunity to ask questions of your tutor and engage in critical discussion.
- Receiving feedback and using this to plan your next piece of work or setting personal and academic targets for future learning activities

The Careers Team

University Centre

Located in the Foyer, ground floor, South Building

Tel. 01253 504474

Bispham Campus

Located opposite the main Reception area in the Hub

Tel. 01253 504298

Student Advisors

Student Advisers provide you with confidential and impartial information on a range of areas, and work to matrix quality standard to ensure excellence of support, advice and guidance to all our Students and prospective Students. Quick-query interviews usually last approximately ten minutes. For example, you might want to ask about job vacancies, for help with preparing for an interview, or advice on financial assistance etc. If you have a more complex query the Student Adviser will make a mutually convenient appointment with you for a longer interview. Careers Information Advice and Guidance and financial Help Group sessions also take place throughout the academic year.

Student Advisers also provide a drop-in service at all Blackpool and The Fylde College Campuses, so you don't need to book an appointment to see an Adviser.

Financial Help and Support

Student Administration can provide you with information and advice on access to help with transport, childcare and HE bursaries.

The Careers Team can help you if you find yourself in financial difficulties and will also help with advice and guidance regarding student loans.

Accommodation

Our Student Advisers can help you find student accommodation and provide advice on costs, and other expenditure i.e. rent bond, gas, electric, TV, phone, travel etc.

Careers Information, Advice and Guidance

The Careers Team are all highly qualified in careers information, advice and guidance and can help you with UCAS applications for entry to Higher Education, with making decisions about progression to other courses, job application, CV preparation and interview techniques alongside career and further training pathways and opportunities. Our team of professional Student Advisers are available to help you with all aspects of your career planning and decision-making, such as:

- Making decisions about your future career
- Planning your job search strategy
- Curriculum Vitae (CV) writing
- Getting relevant work experience - including volunteering
- Making applications and preparing for interviews
- Researching postgraduate study options

At Blackpool and The Fylde, our careers service extends far beyond helping you to pinpoint your ideal career. The emphasis is on tailoring a 'careers package' to your particular aims and aspirations that gives you the skills and experience needed to make you highly employable from the moment you graduate.

That's why all our degrees have a strong employment focus, with opportunities to try out your chosen career area, learn skills that employers are specifically looking for and practice interview and assessment techniques with representatives from industry. We also run an online job shop, backed up by a highly trained team of staff dedicated to making your career goals a reality.

You may be starting your course already clear about what you want to do when you graduate or you may not be sure at this stage. Our experienced and professional team of careers student advisers offer careers and progression advice to guide you towards making the right decisions about your future. Choose from e-guidance, telephone and face-to-face interviews within a small and supportive environment. We also offer pre-course advice and guidance. Underpinning all of this is a vast range of careers library resources together with access to internet-based resources, video resources and computer-aided guidance packages.

Enhancing your Employability

The opportunity for you to develop your graduate skills and attributes is built into all our courses to ensure you graduate not just with subject knowledge but with the ability to embark on your chosen career and hit the ground running. Our programmes also provide an opportunity to discover more about your chosen career area through visits from external speakers and trips to local employers and industry. Some programmes even contain a workplace learning module, where you'll get to spend time with an employer, putting your knowledge into practice and gaining valuable employability skills at the same time.

Getting Ready to Graduate

About a year before you're due to graduate we will invite you to take part in our graduate employability workshops, covering topics such as making the right career move, effective applications and successful interviews. In addition, local employers run mock interviews and facilitate role-play scenarios for students, which replicate the assessment centre experience for newly qualified graduates. These experiences are vital for developing an awareness of your strengths (and playing to them) and gaining an understanding of what graduate recruiters are looking for. Some of our students have even been offered a permanent position on the strength of them.

Grad Intelligence

B&FC in partnership with **Grad Intelligence** provide you with a Higher Education Achievement Report (HEAR) which will be published when you finish your degree.

An account will be created for you as part of your enrolment and you will receive an email to your student email account from accountregistration@gradintel.com, which will give you instructions on how to activate your account.

There is a range of psychometric tests and other tools available that can help you develop your employability skills. You can also create your own e-CV on the platform and access opportunities to search and apply for graduate jobs and/or further study.

HEAR (Higher Education Achievement Report)

The HEAR provides verified information about your academic and college verified non-degree related achievements.

You will be issued with an updated 'interim HEAR' annually in the summer, and a 'Final HEAR' will be issued when you graduate.

Engage with '**DegreePlus**' to evidence your employability skills and attributes to enhance your future employment opportunities.

DegreePlus awards will give you a head start as you enter the highly competitive graduate job market. Each award captures the additional activities you have undertaken which improve and develop your employability.

Gaining additional qualifications can help you stand out as someone who is passionate about professional development.

Student Support and Wellbeing

The Student Support and Wellbeing team offer a range of support tailored to you to promote independence and maximise your potential through a range of enhanced study, mental health and wellbeing strategies.

- Higher Education Learning Mentors (HELMs) email: helminfo@blackpool.ac.uk telephone 01253504494
- Disability Support: email dsainfo@blackpool.ac.uk telephone 01253504494
- Wellbeing self-referral form online at <http://www.blackpool.ac.uk/getwellbeingsupport>
- Wellbeing Support: email general enquiries wellbeingsupport@blackpool.ac.uk
- Support for care leavers, carers and students who do not have contact with their family: succeed@blackpool.ac.uk
- Safeguarding College Hotline 01253 504444 (9am to 4.30pm)

HE Learning Mentors (HELM)

The HELM team can support with aspects of student academic life, from settling into higher education, helping you gain and enhance study and digital skills and creating wellbeing strategies to work as independent learners. Examples of some of the study skills development and enhancement that we offer include:

- Improving your academic writing style.
- Grammar, sentence structure and developing expression.
- Critical and reflective writing.
- Information skills development, such as research, applying theory to your practice / study and referencing.
- Effective study techniques, planning, structuring and polishing assignments, time management and organisation.
- Revision and examination techniques.
- Digital literacy
- Support with Personal Mitigating Circumstances and Interruption of Study to help you get back on track and complete
- Keeping in touch support for Care Leavers, Carers and students with no family support contact.
- Signposting to other Partner for Success services

In addition to individual support, HELMs deliver a range of study and wellbeing skills through workshops including the 'Flying Start' and 'Flying Further' programmes. These are designed to complement the knowledge and information gained from your course. If you wish for the HE Learning Mentors to deliver a workshop for you liaise with your tutor or direct with the HE Learning Mentors team.

For help, advice and information:

- Phone: 01253 504494
- Email: HELMinfo@blackpool.ac.uk
- Drop in: to the University Centre South Building Entrance

SUCCEED is Blackpool and The Fylde College's package for Higher Education care leavers, carers and students who do not have any contact with your family, we can support you.

We offer you help with:

- Finance including application for B&FC Access Scholarship. For further information of all B&FC financial support visit the following link <https://www.blackpool.ac.uk/support/funding/degrees>
- Assignments and exams
- Wellbeing
- Signposting to other services

In addition we offer regular contact, one-to-one support with a named HELM to help you stay on track. For more information on support and eligibility.

For help, advice and information:

- Phone: 01253 504494
- Email: Succeed@blackpool.ac.uk
- Drop in: to the University Centre South Building Entrance

Disability Support

We understand everyone has different needs and some students with disabilities, sensory loss, learning differences, medical and/or health conditions (including mental health) or Autistic Spectrum conditions may need additional support to get the most out of College life. Student Support and Wellbeing offer a range of support tailored to you to promote independence. We work closely with your curriculum teams, supporting accessibility and inclusion.

There is specialist support available to help you succeed at studying with your declared condition. If you are able to provide evidence from a suitably qualified professional (please see below for examples), Exam Access Arrangements and support via the Disabled Students' Allowances (DSA) can help reduce many potential barriers.

Conditions and evidence required

Disabilities or long-term health condition

A photocopy of a report or letter from your doctor or consultant - you can also fill in the [disability evidence form from your Funding Body \(PDF, 65KB\)](#)

Mental-health condition

A photocopy of a report or letter from your doctor or consultant - you can also fill in the [disability evidence form from your Funding Body \(PDF, 65KB\)](#)

Specific learning difficulty like dyslexia

A photocopy of a 'diagnostic assessment' from a practitioner psychologist or suitably qualified specialist teacher

Support with gaining diagnostic evidence

If you do not have medical evidence of your condition, or a report available, we can offer advice on how to obtain this and in most cases provide funding.

If you are moving locally to Blackpool for the purpose of your study, you may want to consider temporarily transferring your health support to ensure cover for medication/prescriptions and referrals to local support groups. To find a local GP you can use the national NHS link <https://www.nhs.uk/Service-Search/GP/LocationSearch/4>

Disabled Students' Allowance

DSAs are Student Finance grants that pay directly for extra Assistive Technology and Specialist Support (out of class) that may benefit you as a direct result of your medical/health condition. Visit the [DSA pages](#) on the UK Government website to learn more about the application process.

B&FC offer (subject to eligibility) the Advantage Bursary or hardship funding to cover the £200 contribution cost of a computer as part of the DSA.

Examination Arrangements

Exam Access Arrangements are pre-examination adjustments put in place for you based on your individual need, for example, readers, scribes, rest breaks. You will need to refer yourself to Student Support and Wellbeing for exam access arrangements for approval prior to your exams.

General Support

Campus Access:

Visit [AccessAble](#) website for access information for our campus sites. This includes details of B&FC facilities.

Wellbeing Support

The Wellbeing Service at Blackpool and The Fylde College offers a wide range of support, including wellbeing and short term counselling appointments, interactive workshops and support to access self-help resources.

To access support from the wellbeing team, please complete the [wellbeing referral form](#).

Responses to this form are monitored twice a day (9-4pm) from Monday to Friday during term time.

Please note that this is not an emergency service. If you are concerned about your safety or the safety of someone else call your **GP, NHS 111** or attend **Accident and Emergency** at Blackpool Victoria Hospital.

Visit the [Wellbeing area](#) on SharePoint for more information and guided self-help.

Visit the Contemplation rooms for quiet meditation, prayer or just 'time out'.

The Contemplation rooms can be found at:

- Bispham Campus - C307 - Third Floor Room - Cleveleys Building
- University Centre - SB130 - Second floor Room - South Building
- Fleetwood Campus- Room A33 Ground Floor- Halls of Residence

To use the contemplation rooms, visit the main campus reception and sign for the room key.

For help, advice and information:

- Phone: 01253 504494
- For general enquiries please email wellbeingsupport@blackpool.ac.uk
- Drop in: to the University Centre South Building Room 26c)

Need help now?

B&FC Safeguarding - If you feel unsafe or at risk at College contact your tutor or the Student Direct Safeguarding College Hotline: 01253 504444 (9am-4.30pm). If you require advice or assistance about disclosing a safeguarding concern you should discuss this with your Progress Tutor or any member of staff.

If you feel you are at risk of harm to yourself or others and need immediate help, contact the National Health Services (NHS) such as your GP or alternatively ring 111 as soon as possible, if you are in an emergency situation ring 999 or go to Accident and Emergency (24 hour) Victoria Hospital Whinney Heys Rd, Blackpool, FY3 8NR and request a mental health assessment.

Alternatively go to your nearest Walk in Medical Centre:

- Whitegate Health Centre, Blackpool, FY3 9ES
- Fleetwood Health & Wellbeing Centre, FY7 6HP

Need to Talk?

Support is also available externally from the following organisations:

Mental Health Helpline Freephone 0800 915 4640. <http://www.lancs-mentalhealthhelpline.nhs.uk>

Samaritans (24 hour) Freephone 116 123 <http://www.samaritans.org>

HOPELINE - Call: 0800 068 4141, Text: 07786209697 or Email: pat@papyrus-uk.org (10am – 10pm weekdays, 2pm – 10pm weekends and bank holidays)

LEARNING RESOURCE CENTRE TEAMS

Whichever campus you study on, the Learning Resource Centres (The Loops) will play an important part in your studies. Our flexible learning spaces can provide you with a mixture of computer, group work and quiet study areas. You should make maximum use of this facility to log-on to a PC, access printing and copying facilities or ask the Resource Advisers for help and advice.

You will have access to a wealth of information through a wide range of physical and online resources such as e-books and full text journal databases giving 24/7 support for your academic work. Our online search tool Discovery is available for you to search for high quality, relevant journal articles to support your studies. Our online catalogue - <https://libcat.blackpool.ac.uk> - is also available 24/7 allowing you to check reading lists, reserve titles, renew borrowed items and provide direct links to the titles in our extensive eBook library. We can also provide material from other libraries through our inter library lending scheme.

Our teams are always happy to offer help and advice. They have in-depth knowledge of your subject area and can support you in finding good quality research material, as well as developing your IT and research skills through one-to-one sessions. Interactive support materials are available through the Learning Resources area on the virtual learning environment, Canvas. More information about The Loops, including the opening hours for each centre, can also be found on the [college website](#)

Term time opening hours

The Loop at UC

Monday – Thursday 8.30 – 21.00

Friday 8.30 – 17.00

Saturday 10.00 – 15.45

Email: CentralLoopLRC@blackpool.ac.uk

Telephone: 01253 504414

The Loop at Fleetwood

Monday - Thursday 8.15 – 19.45

Friday 8.15 – 17.00

Saturday 10:00 – 15.50

Email: Ircfle@blackpool.ac.uk

Telephone: 01253 504714

The Loop at Bispham

Monday – Tuesday 8.30 – 17.00

Wednesday 8.30 – 20.00

Thursday - Friday 8.30 – 17.00

Email: Ircbis@blackpool.ac.uk

Telephone: 01253 504290

Self-issue / return facilities are available in the Bispham, Fleetwood and University Centre Loops. There are drop-in IT-based facilities with networked computers (including Macs in the Loop at UC) and wireless laptops, colour printing and scanning facilities. In addition, the Loop teams can help you get connected to the Wi-Fi and other college systems. Help with IT issues is available through an online HelpDesk.

You can access computing and copying facilities at any campus, if this is more convenient for you when engaged in independent study, but the majority of course specific materials will be located in the Loop on the campus where your course is based.

You will find the essential texts for your course available in the library stock and these are regularly updated. Relevant journals and online resources are purchased on an annual basis. For all Higher Education courses you will have access to online reading lists via the Keylinks software. These online reading lists directly link you to the core eBooks and print resources in the library catalogue, thus enhancing their accessibility.

Following an initial Welcome Tour of your local Loop, your tutor will arrange for us to work with you in follow-up in-depth sessions on key skills such as effective searching of online resources and referencing. Induction sessions are also provided at the start of your programme to help you find your

way around technology in the college. Additional one-to-one tutorials are available to all students. LRC support is supplemented by a range of interactive resources on Canvas.

The services provided by the Learning Resources Centre will be an integral part of the Induction Programme for this course.

Information Technology Resources

Being able to access resources and materials to help you on your course when you need them is very important. Canvas is our virtual learning environment, and contains lots of key information about your course and is accessible 24:7. As part of your induction we will make sure you are able to make the most of this resource.

As a student at Blackpool & the Fylde College you will be provided with a web-based Microsoft Office 365 account. This account provides anytime, anywhere access to a suite of Microsoft programmes including Outlook email and web-based versions of Word, Excel and PowerPoint. You also get access to your own online storage area so you can download, edit and save your college work wherever you are.

Included in your Microsoft Office 365 account is access to our MyDay portal. The portal provides you with access to your calendar (including timetables), email and links to the VLE and eTrackr. Timetable data is updated every hour so you can see all room changes. It is accessible from a web browser and as a mobile device app on Apple and Android devices. MyDay will be launched automatically whenever you login into a College desktop computer.

To find your course materials, log-on to the VLE, the College's virtual learning environment. The VLE contains lesson notes, multimedia materials, quizzes, forums and lots of different tools to help you achieve your academic goals. You may submit your assignments through the VLE and receive online feedback from your tutors. The VLE also provides easy ways for you to communicate with your tutors and fellow students using messaging, chat rooms and forums. You can access your Office 365 and VLE accounts by logging into one simple webpage MyDay which also contains useful college information, news and links:

<https://blackpool.mydaycloud.com/dashboard/home>

Induction sessions are provided to all students at the start of their course to help you find your way around technology in the college. 'The Loop' LRC's are located on each campus. You can pop into The Loop and log-on to a PC, access printing and copying facilities or ask the Resource Advisers for help and advice.

STUDENT UNION

[The Students' Union](#) (SU) at B&FC is *your* union. It's made up of students that *you* elect each year, who listen to the student voice and respond to *your* wants and needs. The SU represents students on a range of issues, including equality and diversity, education and social activities, with the aim of ensuring your time here is as interesting and enjoyable as possible.

As a student at Blackpool and The Fylde College, you are automatically free members of the Students' Union and you are encouraged to play an active role. Our Students' Union is actively engaged in student affairs at local and regional levels so there are opportunities for you to become involved in various campaigns and fund-raising activities. Our aim is to work for the good of the student community and to take an active interest in the development of all students. As such the Union represents the students on a number of academic and College committees where student involvement and comment is welcomed.

The Union provides the framework and financial backing for students to organise trips and events, which can be a great way to broaden your interests and meet new people. With a wealth of information, our Students' Union can also advise you on places to go and things to see and do.

If you need to get in touch, you can contact your Student Union Sabbatical Officer by phone or email.

B&FC Student Union Sabbatical Officer

Tel: 01253 504 517

Email: studentsunion@blackpool.ac.uk

BEING A PARTNER IN YOUR OWN SUCCESS

Higher education is as much about personal change and development as it is about subject knowledge and skills development. By facilitating your development we enable you to take responsibility for your own learning. Students who are fully informed about the opportunities available to them, but who are also aware of their responsibility to engage with those opportunities, are more likely to make effective use of services and resources. It is important that you take advantage of every opportunity to facilitate your success, and to creatively engage with the knowledge you encounter, constructing and reconstructing your own understanding. We will support you to set clear goals, reflect on your progress and develop key graduate skills.

ABSENCE REPORTING

If for whatever reason, including ill health, you are going to be absent from College then you will need to ensure that you make contact with us to discuss how we can support you. This is particularly important if your absence could have a significant effect on your assessment requirements. Should this be the case then you will need to consider the College Personal Mitigating Circumstances procedure the full version of which is available at the link below.

<https://www.blackpool.ac.uk/he-regulations>

Any personal mitigating circumstances, such as ill health, which may have affected your studies or performance in assessments and examinations, would need to be submitted to the HE Student Administration Manager mitigating.circumstances@blackpool.ac.uk formally by you with supporting evidence, e.g. a medical certificate, following the procedures and in accordance with the deadlines laid down in the College's Personal Mitigating Circumstances Policy.

In the event that you are unable to attend an examination because of illness or other unforeseen circumstances, you must immediately inform your programme leader before the start of the examination. If you are absent from the whole or part of an examination because of illness, a Personal Mitigating Circumstances application form together with a valid medical certificate or other appropriate independent documentary evidence must be forwarded to the HE Student Administration Manager normally within ten working days of the examination.

STUDENT IDENTITY CARD

You must wear your ID badge at all times whilst on College premises. Access to College facilities is dependent on Students having their ID badge. You will also be asked to show your ID badge when sitting exams. You will be challenged if you are not wearing your badge when on College premises. This is to help students and staff feel safe in College.

FOOD ON CAMPUS

When you want to take a break for refreshments on campus, you're well catered for. At the University Centre's Central Hub refectory, **Café Grads**, you can sit down and tuck into a proper meal or just grab a bite and relax in one of the chill-out areas. A **Starbucks** outlet has also just opened in South Building.

A similar-style refectory, **Retreat**, is available at our Bispham Campus or if you fancy a little treat there

is also a range of freshly made sandwiches and smoothies in the **Grab and Go** and a **Starbucks**. At the Fleetwood campus the **Refectory** offers traditional breakfast, a wide range of hot food, sandwiches, snacks and beverages. Visit <http://www.blackpool.ac.uk/facilities/shops> for more information. At all our campuses, there are also plenty of vending points providing snacks on the go.

Get off to a great start every morning! All Blackpool and The Fylde College students are entitled to a free healthy breakfast.

SPORTS FACILITIES AND COLLEGE TEAMS

Sports facilities are mainly based at the Bispham Campus where there is a sports hall, an all-weather floodlit sports pitch and a well-equipped gym. Our Fleetwood campus has sports facilities. We have numerous College teams, both men's and women's, with other available sports ranging from volleyball and five-a-side football to table tennis and canoeing. To find out more ask your progress tutor.

ENRICHMENT

Enrichment is about providing you with opportunities to bring your learning to life, developing your range of interests, meeting new friends and growing as a person. Some activities will be related to your area of study whilst others may not be directly linked. More information is available in your Partners for Success Guide; via the Students' Union and through your progress tutor.

Curriculum-based activities

Whilst studying your chosen subject at College, you will have the chance to see how your subject works in real life and apply that insight to your studies. We also aim, during your programme of study, to develop your employability skills and interview techniques. To provide this valuable enrichment, your programme may feature such activities as guest speakers, trips into industry and overseas visits, 'real life' assignments, competitions, work experience and work placements (some of which can lead to permanent positions).

Extra-curricular activities

College is also as much about the social side as it is about learning. At Blackpool and The Fylde College we offer a vast range of activities, from discounted theatre trips to lunchtime sports activities and book club. Activities are free to everyone enrolled on a course and in most cases, there's no need to book. For more information about what's on check your Partners for Success Guide; visit the Students' Union website or speak to your progress tutor.

Fee-based activities

For those of you who wish to engage in a further range of activities there are fee-based sports activities.

The Enrichment Team can also organise one-off fitness activities, such as trips to Manchester's Chill Factor for skiing or outings to Grizedale Forest for mountain biking. For more information please visit the Students' Union website or contact the Enrichment Team on 01253 504134.

GETTING INVOLVED IN THE QUALITY OF YOUR PROGRAMME

At Blackpool and the Fylde College we believe that you are a member of our higher education and College community and as such your views and experiences are extremely important to us. We want to work in partnership with you to ensure that your experience is the best that it can be both for you and others who study with you. To this end we work hard to engage all students in dialogue about the quality of their learning experiences. You can engage by providing useful feedback on your experiences of modules through Module Evaluation Questionnaires, through being an elected course

representative attending student forums and college meetings and through surveys such as the Post-induction survey and the National Student Survey (NSS).

The MEQ (Module Evaluation Questionnaire) surveys give students a chance to put their views across relating to modules and progress meetings during the academic year. You will be asked to rate questions around various themes such as Teaching and Learning, Assessment and Feedback, Organisation, Resources and Facilities, Student Voice and Overall Satisfaction, as well as to make individual comments if you wish. We can use what the results tell us that you like, or don't like, to make changes and improvements to our HE programmes, as well as look at how we compare with other similar colleges.

ACADEMIC APPEALS

An academic appeal is a procedure which allows you in certain circumstances to ask for a review of a decision relating to your academic progress or award. You can ask for a review of a decision by one of the following:

- A Board of Examiners, both Module and Programme Boards.
- A Personal Mitigating Circumstances Panel
- An application to the College
- An Academic Malpractice Panel

It should be noted that students may only appeal against a decision if they can show that they satisfy one or more of the grounds detailed in the academic regulations. The appeal process cannot be used to challenge academic judgement or appeal simply because you disagree with the marks you have been given.

An academic appeal is different from a complaint so appeals and complaints are looked at under different procedures. A complaint is dissatisfaction about the provision of a programme or academic service or facility or any other service provided by the College.

Students studying either a:

- **Blackpool & The Fylde College Programme**
- **Lancaster University Validated Programme**
- **Liverpool John Moores Validated Programme**
- **Scottish Qualifications Authority Programme (SQA Higher National)**
- **BTECHigher National Programme**

To lodge an academic appeal, you must do so by submitting your appeal within 10 working days of the publication of your results or decision of a panel either by writing to the HE Academic Registrar, Bennett Avenue, Blackpool, Lancashire, United Kingdom, FY1 4ES or by email to: appeals@blackpool.ac.uk

The Academic Appeals regulations and application pro-forma can be found on The Blackpool & The Fylde College website <https://www.blackpool.ac.uk/he-regulations>

COMPLIMENTS, COMPLAINTS AND FEEDBACK

Blackpool and the Fylde College welcomes feedback from all its students and is committed to improving the quality of the services it provides; we are committed to openness and transparency by providing well publicised and accessible information on how to give feedback or make a complaint.

Compliments, complaints and feedback will be dealt with courteously, fairly and objectively.

We hope that you will never have cause to do so but if you wish to raise a complaint (or you wish to compliment us or provide feedback) please take a look at our Compliments, Complaints and Feedback Procedure which is located on our website here: <https://www.blackpool.ac.uk/college-policies>

GRADUATION

Our annual higher education awards event is a spectacular occasion, representing the culmination of masses of dedication and hard work, and the gateway to an exciting and rewarding future. The graduation ceremonies will take place at the Winter Gardens and Opera House, 97 Church Street, Blackpool, Lancashire, England FY1 1HL.

Your graduation day may seem a long way off now, but you will be there quicker than you think! Blackpool and the Fylde College's Awards Ceremonies are a part of the celebration of your achievement and we hope you will be able to attend. You will need to budget for the cost of guest tickets, academic dress and photography. Awards Ceremonies are held each year at the Winter Gardens. If you attend the Awards Ceremonies we publish the names and awards of all graduates in the Awards Ceremony booklet and in a graduation supplement in the local press. If you do not wish your name to appear, you must contact Student Administration to inform us. We will print the name we have recorded for you on your degree certificate, so it's important that you tell us in advance of any spelling or other changes. After we have printed the certificate we will not be able to change it for you.

This is a very special day for all our graduates and their friends and families and is a marvellous opportunity to share and celebrate your academic achievement and accomplishments.

MODULE OUTLINES

The following module outlines provide you with a brief overview of the modules and their contents, together with the intended learning outcomes.

B4SCENG-MT: Introduction to Academic Study Level 4 - Mandatory

Module Abstract

This module aims to give you specific knowledge, skills and understanding required for successful higher education study and engagement with industries related to computing, science or engineering. It will draw explicit attention to the introduction and/ or development of such skills; encourage you to consider your approaches to learning and enable opportunities for discussing multiple perspectives of your subject and wider related issues.

You will become familiar with analysing data sets and examples of practice to produce graphical representations of data. You will develop the strategies and understanding needed to find, interpret and evaluate academic sources, examples of practice and statistical data in order to compare approaches to your subject and form new ideas.

The module will provide opportunities to communicate your developing knowledge and practical application of mathematical constructs both formally and informally, requiring you to express your ideas verbally, graphically, in writing and digitally. Reflection on such communications will involve identifying personal attitudes and skills levels and establishing potential ways to enhance skills needed for the remainder of the course and beyond.

A key focus of the module is the importance of academic practice when communicating your interpretations of subject specific material. Formative and summative activities will provide you with a sound basis for expressing ideas, solving problems and analysing perspectives related to industry in a style and format appropriate for higher education. This will include structuring a written piece of coursework, adhering to standards such as word count, evaluating secondary sources and referencing accurately.

Learning Outcomes

- 1 Find, interpret and evaluate a range of digital and traditional sources to produce written communication that meets academic expectations of higher education.
- 2 Reflect on personal attitudes and skill levels and identify further learning needs to support future studies and enhance transferable skills for employment.
- 3 Analyse data sets to produce graphical representations of data OR analyse a case study to identify and discuss theoretical perspectives, models and research.
- 4 Produce verbal presentations appropriate to audience and level of complexity.

Indicative Content

Academic Writing

- Conventions
- Terminology
- Paraphrasing
- Summarising
- Reports / Essays
- Referencing
- Academic integrity

Ethical Research and Practice

- Confidentiality, anonymity, secure storage, vulnerable participants, netiquette

Secondary Research

- Use of digital and traditional tools for discovery; open access journals
- Referencing and in text citation, plagiarism, reliability and validity of sources
- Comparison, contrast and critical evaluation
- Critical reading and note making

Data Collection

- Working with raw datasets, cleaning and processing
- Spreadsheet tools

Data Analysis

- Statistical analysis Mean, median, mode, standard deviation, correlation
- Accuracy, precision, error and uncertainty
- Reporting data (graphical methods, tabular grouped vs ungrouped etc.)
- Interpreting data (confidence intervals and p values)

Reflective Practice and Writing

- Models of reflection

Critical Reflections

- Academic formality voice / academic, personal and professional

Presentations

- Selection of relevant points
- Communication of ideas verbally / visually

ENG402: Engineering Science Level 4 - Mandatory

Module Abstract

This module will develop your understanding of the key mechanical, electrical and electronic concepts that relate to mechanical and electrical and electronic science that underpin all aspects of engineering.

Engineering statics will cover topics such as introduction to stress, strain and basic material properties, the analysis of beams, columns and shafts. It will also explore the elastic/plastic relationship between stress-strain and its direct link to the 'allowable stress' required to design engineering components. This will lead into engineering dynamics which explores the concepts of moving components the behavioural analysis of engineering systems subject to uniform acceleration, the effects of energy transfer in systems, free oscillatory vibrations and resonance.

You will study principles of DC and AC circuit theory, investigating resistors connected in series/parallel and then develop the use of Ohm's law and Kirchhoff's law to solve relevant realistic industrial problems.

Circuit theorems are also considered for resistive networks, together with a study of the characteristics of growth and decay of current/voltage in series C-R and L-R circuits. Characteristics of various AC circuits and the transformer are also introduced.

Basic Physics and Radiological principles will be introduced along with mathematical and analytical principles that will be further examined in other complementary modules at this level (for example ENG404).

Learning Outcomes

- 1 Examine scientific data using computational methods
- 2 Determine parameters within mechanical engineering systems
- 3 Identify and categorise the characteristics and properties of engineering materials
- 4 Analyse circuits with constant voltages, applying fundamental electrical quantities
- 5 Analyse applications of electromagnetic principles and properties
- 6 Apply DC theory and single phase AC theory to solve electrical and electronic engineering problems

Indicative Content

Forces, stress and strain: Direct forces and loading, elastic constants, shear stress and strain and allowable stress

Simply supported beams: Shear force, bending moments and stress due to bending, radius of curvature in simply supported beams, stress distribution, point and distributed loads. Factor Archimedes' principle. Review unknown forces using D'Alembert's principle applied to free body diagrams

The changes that occur within solid material when exposed to temperature variations, classification of metals and non-metals and types of degradation found in these

Electrostatics: Electric fields and capacitance, magnetic materials, magnetic fields, strengths and circuits, flux, flux density and conductors, permeability, hysteresis, Faraday and Lenz law, electromagnetic induction, stored energy, inductance of a coil, mutual inductance

DC and AC circuit theory: Resistors in series and parallel, use of Ohm's and Kirchhoff's laws, voltage and current dividers, review of motor and generator principles, Thevenin, Norton and maximum power transfer for resistive circuits, fundamental relationships of resistance, inductance, capacitance, series and parallel circuits

Module Abstract

This module will introduce you to the techniques and best practices required to successfully create and manage an engineering project designed to identify a solution to an engineering need. While carrying out the project you will consider the role and function of engineering in our society, as well as the professional duties and responsibilities expected of engineers. You will explore engineering project principles in a theoretical and practical environment, examining the key fundamental concepts and theories of engineering within the envelope of design, manufacture and test.

You will conceive, plan, develop and execute a successful engineering project on a small scale, intended to teach practically the basic methodologies to follow when managing a project in the future, along with the basic documentation you will need to develop and maintain throughout any project's life-cycle. You will produce and present a project report outlining and reflecting the outcomes of each process and stage of the project.

This module will provide the foundational, underpinning knowledge required for further development of planning and production of a project. Knowledge and skills you acquire at this stage will be linked to modules from semester 1 and semester 2 such as ENG402, ENG406 and ENG405. This module will also provide you with the basics for managing your research projects at later stages of the programme. It will also be of great help to you for ENG502 Professional Engineering Management, as well as for your dissertation at Level 6.

Learning Outcomes

- 1 Evaluate potential solutions for an identified engineering problem
- 2 Formulate and plan a project that will provide a solution to an identified engineering problem
- 3 Critically evaluate techniques to analyse and test the validity of design decisions
- 4 Outline and reflect on the outcomes of each of the project processes and stages and communicate to a relevant audience

Indicative Content

Case studies to demonstrate industry standard reports

Examples from a wide range of multi- discipline engineering problems and their resolutions within the relevant engineering sector

Relevant computer software (Microsoft Project, MS Office)

Planning techniques

Specifications, logs, and other project management products (documentation)

Project management roles and responsibilities, teamwork

Importance of health and safety and its relevance in project planning

Introduction to ethics, ethical approaches that shape the nature of projects, the importance of ethical considerations when designing a new product

Importance of sustainability when planning projects and designing new products

Introduction to relevant project management methodologies, their characteristics, advantages and suitability to different projects

Introduction to relevant international engineering standards that will need to be considered during the planning and production stages of any project. The importance of these standards when producing products to be sold all over the world

ENG404: Engineering Mathematics Level 4 - Mandatory

Module Abstract

This module develops core mathematical principles and provides a broad platform of mathematics within the context and application of the field of engineering. The content strongly supports development and promotes interest and understanding, with reference and application to relevant engineering applications.

The module explores problem solving by both traditional analysis and via programming and application of relevant software to embed understanding of basic principles and gain confidence with mathematical tasks. Software packages are utilised within this module to promote the practical application and contextualisation of mathematics. Tuition on using the software will be provided within the workshops.

The module is designed to expand upon mathematical principles learned and applied at Level 3 with some overlap for recap and contextualisation for engineering problems. The majority of the teaching will be lecture based with time within the lesson given for you to attempt the work demonstrated either working in groups or alone. Additional help will be provided within the workshops. You are encouraged to maximize your experience by participating in all the workshops provided, thus consolidating your work and giving them confidence.

This module will complement mathematical principles embedded within other modules at this level (ENG402, BFC402-E). The module has also been designed to provide underpinning knowledge required for further development of mathematical principles at subsequent levels.

Learning Outcomes

- 1 Identify and utilise the appropriate mathematical methods to solve a variety of contextualised engineering examples
- 2 Investigate applications of statistical techniques to interpret, organise and present data, by using appropriate computer software packages
- 3 Use analytical and computational methods for solving problems by relating sinusoidal wave and vector functions to engineering applications
- 4 Illustrate the wide-ranging uses of calculus within different engineering disciplines by solving differential and integral calculus problems
- 5 Model engineering solutions and solve problems using complex number arithmetic

Indicative Content

Number theory: Units and dimensions, dimensional analysis, number systems (natural, rational, real, complex), complex number notation; Cartesian, polar and exponential forms; arithmetical operations; multiplication and division; argand diagrams and phasors;

Algebra: Determinant of a matrix and use to solve linear simultaneous equations up to (3x3), matrices and use of inverse matrix method up to (3x3), polynomials - factor theorem and remainder theorem,

reduction of algebraic fractions to partial fractions, exponential, trigonometric and hyperbolic functions.

Vectors: Vectors and vector algebra, 3D vectors and direction cosines, angle between vectors, scalar and vector products.

Trigonometry: Trigonometric identities, relationship between trigonometric and hyperbolic identities, radian measure, double angle and compound angle formulae, solving trigonometric equations using identities, addition and subtraction of waves, solution of complex trigonometric expressions using identities.

Differentiation and differential equations: Differentiation / rate of change, differentiation of algebraic functions for first order and higher order derivatives, differentiation rules, product and quotient rules, application to maximum / minimum values.

Integration: Concept of integration as the inverse of differentiation, integration of algebraic and trigonometric functions, definite and indefinite integrals, standard integrals, integration by parts and substitution, using partial fractions.

ENG405: Computer Aided Design Level 4 - Mandatory

Module Abstract

This module will give you an introduction to Computer Aided Design, Solid Modelling and other ancillary techniques by covering a range of Computer Aided Design Principles which underpin the design and operation of engineering systems used in industry today.

You will be led through the design process via practical application of CAD software from the creation of 2 and 3 dimensional drawings and models, generating an assembly from individual parts, constructing exploded diagrams and rendered images.

The module also explores the development advantages and benefits that CAD has brought to Engineering and how developments with computer aided manufacture and rapid prototyping have changed the way that components and assemblies can be designed.

The outcomes will enhance your ability to understand these principles and apply them to their working environment to maximise the contributions you can make within the work place. You will be given the opportunity to print final designs on a Rapid Prototype machine and critically evaluate via a 3D model.

Learning Outcomes

- 1 Discuss the role of CAD in different engineering contexts and its influence on design and manufacturing processes in areas of specialist practice.
- 2 Use 2D and 3D CAD software to produce visualisations and technical drawings.
- 3 Present drawings and renderings, for a given project, produced using CAD software.
- 4 Evaluate the way in which CAD software may integrate into production processes.

Indicative Content

Creating 2D and 3D models with complex surfaces using modelling tools to generate a component with complex surfaces

Generating a 3D assembly; creating the components and then assembling them into a fully or part working model

Using the correct constraints to hold the model and allow some movement of parts

Construct animated exploded diagrams of completed assemblies

Stress analysis of models generated as part of software CAD package

Generating realistic rendered images of a constructed model

ENG406: Engineering Design Level 4 - Mandatory

Module Abstract

Engineering roles ultimately rely upon the process and product outputs of design and development.

All engineers require a baseline understanding of the design process to ensure that, whatever future role they undertake, they work in association with and can link the theory to the requirements of the end user and end product.

The aim of this module is to introduce you to a logical structure that engineers use in order to design products and/or processes. It will enable you, as future engineers to follow a design brief or specification to identifying, designing and justifying an optimized solution.

This module will provide you with a sound foundational understanding of Engineering Design and its application across many engineering disciplines. You will explore complex real world problems and gain a 'hands on' approach to initiating and delivering design projects.

You will apply Engineering design through case studies and workshops, developing your appreciation that engineering is a highly interconnected, technical and complex environment and has an impact upon the environment and future sustainability.

Learning Outcomes

- 1 Identify and apply basic principles of engineering to solve engineering design problems.
- 2 Select appropriate materials according to strength, properties and manufacturing methods.
- 3 Prepare an engineering design specification aligned to design briefs and stakeholder requirements.
- 4 Produce a technical report to industry standards that includes appropriate concepts, design calculations, drawings, cost and risk analysis.
- 5 Present, a recommended engineering design solution aligned to design briefs and stakeholder requirements.

Indicative Content

Engineering design projects: Identification of engineering design opportunities, language and vocabulary, stakeholders, development end-to-end, design for manufacture

Stakeholders and the design brief: Identifying and managing stakeholders, understanding design requirements, constraints, costs and safety implications, preparing a design specification, market analysis, innovation and creativity

Design process: Analysis of the problem, defining tasks, research and initial concepts, specification production, options, alternatives and evaluation of optimum solution, working diagrams, prototyping, test and evaluation

Engineering Materials: Materials evaluation and selection processes

Manufacturing Processes: Appreciating various traditional and emerging manufacturing processes and technologies, developing appreciation of appropriate methods to suit materials, strength requirements and processing capability

ENG501: Further Engineering Mathematics Level 5 - Mandatory

Module Abstract

This module develops core mathematical principles and provides a broad platform of mathematics within the context and application of the field of engineering. The content strongly supports development and promotes interest and understanding, with reference and application to relevant engineering applications.

You will also develop your mathematical knowledge with additional topics that underpin the next levels of the curriculum and allow more detailed understanding of the operation of engineering and associated systems..

The module explores problem solving by both traditional analysis and via programming and application of relevant software to embed understanding of basic principles and gain confidence with mathematical tasks. Both Matlab and MS Excel are utilised within this module to promote the practical application and contextualisation of mathematics.

The module is deigned to expand upon mathematical principles learned and applied at Level 3 and 4 with some overlap for recap and contextualisation for engineering problems, topic areas include: algebra, trigonometry, complex numbers, differentiation and integration.

Learning Outcomes

- 1 Identify and apply complex number theory in solving analytical problems.
- 2 Apply partial differentiation methods to solve contextualised problems.
- 3 Model engineering situations and solve problems using first and second order differential equations.
- 4 Analyse scenarios involving the use of Laplace transformations, inverse Laplace transforms, transfer functions and normalised models.
- 5 Determine Fourier series for even and odd functions and the half range series for appropriate engineering functions.

Indicative Content

Complex numbers: Real and imaginary numbers, complex number notation, cartesian, polar and exponential forms, arithmetical operations, powers and roots of complex numbers, argand diagrams and phasors, cartesian and polar co-ordinate systems.

Differential equations: The classification of differential equations, first order differential equations, linear differential equations, linear homogeneous constant-coefficient equations, second order differential equations.

Laplace transforms: Frequency and time domains, transforms of simple transfer functions and normalised models, properties of Laplace transforms, inverse Laplace transforms.

Fourier series: Periodic function of period 2π , non-periodic over the range 2π , odd and even functions, half range series, Fourier series for a given function over any range.

ENG502: Professional Engineering Management Level 5 - Mandatory

Module Abstract

Engineers are professionals who can design, develop, manufacture, construct, operate and maintain the physical infrastructure and content of the world we live in. They do this by using their academic knowledge and practical experience in a safe, effective and sustainable manner, even when faced with a high degree of technical complexity, risk or uncertainty.

The aim of this module is to continue building upon the knowledge gained at Level 4 within module ENG403 Managing a Professional Engineering Project. We will build on the basics you acquired at Level 4 and expand your knowledge to other management fields in the engineering domain. You will learn about the professional standards for engineers, and will be guided through developing them on your own and adapting them to the range of employability skills needed by professional engineers.

Among the topics included in this module are: engineering strategy and services delivery planning, the role of sustainability, the overall quality management of engineering projects, engineering management tools, managing people and becoming a professional engineer. You will learn about managerial and leadership aspects of the profession.

You will learn how to construct a coherent engineering services delivery plan to meet the requirements of a sector-specific organisational or business need. You will develop your professionalism, self-assurance and confidence, as well as commitment to professional standards and obligations to society, the engineering profession and the environment. You will have the opportunity to develop the theoretical and practical knowledge you gained in ENG403 Managing a Professional Engineering Project

Learning Outcomes

- 1 Evaluate the risk evaluation theories and practices associated with the management of engineering projects for the production of current and developing technology
- 2 Produce a managerial engineering services delivery plan that meets the requirements of a sector-specific organisation
- 3 Evaluate the role of leadership skills, and individual and group communication skills
- 4 Apply personal commitment to professional standards and obligations to society, the engineering profession and the environment

Indicative Content

Organisational structures and functional elements

Strategic planning and deployment

Engineering strategy and services delivery planning

The role of sustainability

Total quality management

Logistics and supply chain management

New product development strategies, impending standards changes and the revised requirements in a changing economic environment

Legal obligations and corporate responsibility

Engineering relationships: the relationship between engineering and financial management, marketing, purchasing, quality assurance and public relations

Problem analysis and decision making, risk management, change management, performance management

Product and process improvement, project management and earned value analysis

Leadership styles, techniques for effectively managing teams

Steps to follow for delivering effective managerial presentations, meeting management skills and basics of meeting and managerial documentation

Communication and listening skills, negotiating skills

Human error evaluation, coaching and mentoring

Engineering social responsibility

Importance of being active and staying up-to-date with the engineering profession, new developments and discoveries and methods of continuing professional development

ENG503: Research Project Level 5 - Mandatory

Module Abstract

Engineering projects generally require a considerable degree of research to inform their concept. Having a well-researched concept is fundamental to producing a viable outcome. For this, you should master appropriate research techniques to inform the design and development of any project. A good understanding of research ensures that, whatever role and engineer undertakes, work in association with it will link theory and practice to the requirements of end users and end products.

The aim of this module is to introduce you to a logical structure that engineers use in order to research and design products and/or processes. It will enable you, as future engineers to formulate concepts, produce a design brief or specification and contribute to identifying, designing and justifying an optimised solution.

This module builds on skills acquired in ENG403 Managing a Professional Engineering Project and ENG406 Engineering Design. Key skills from ENG502 Professional Engineering Management will also be used and these skills will be further honed during ENG601 Dissertation.

This module will provide you with a sound understanding of engineering research processes, how to incorporate research into the development of a project, and the application of research across many engineering disciplines. You will explore complex real world problems and gain a 'hands on' approach to identifying and delivering a researched project in line with defined objectives. You will present and explain your project and will utilise critical thinking skills associated with solving engineering problems as they arise.

Learning Outcomes

- 1 Conduct the preliminary stages involved in the creation of an engineering research project.
- 2 Evaluate the analytical techniques used to work on all stages of the project and strategies required to overcome the challenges involved in a research project
- 3 Identify the impact research experiences have in enhancing project outcomes and outputs, and personal or group performance within an engineering context
- 4 Present and evaluate research project outcomes and activities

Indicative Content

Identification of engineering research opportunities and applications. Identifying stakeholders, information sources and validation of sources

Developing the project including the methods of designing, prototyping, documentation requirements and intellectual property issues

Critical thinking skills, data interpretation and evaluation techniques and identifying appropriate outcomes including decision making strategies, conflict resolution, selection and rejection of possible research threads

Communication methods including the use of various platforms and media to both gather and disseminate information and the style and language required for specific audiences

ENG504: Engineering Dynamics Level 5 - Mandatory

Module Abstract

Engineering dynamics serves as a foundation for many other key topics within engineering, with wide-ranging applications in mechanical, aerospace, and mechatronics engineering. This dynamics module includes the study of kinematics, regarding observed motions, and kinetics, the study of the forces affecting motion.

The module covers dynamics of particles, the kinematics and kinetics of rigid bodies and also the simulation of engineering dynamics.

These two topics will embed the principles of dynamics whilst also allowing the students to appreciate the practical limitations that govern the behaviour of machines and systems, and will hence be contextualised throughout. The analytical nature of the module will also serve to improve upon understanding of other subjects, including mathematics, analysis, and design, by delving deeper into the physical workings of a system and reinforcing problem-solving skills.

In modern engineering computational software, has become an increasingly important tool to aid with the modelling of practical problems. This module will introduce students to the use of this software for dynamic simulation, and provide a good foundation for wider use in other subject areas.

Learning Outcomes

- 1 Identify and apply appropriate principles of engineering dynamics to solve contextualised engineering problems.
- 2 Choose and apply an appropriate analysis methodology to solve analytical dynamics problems.
- 3 Evaluate solutions to problems relating to Kinetics and Kinematics of rigid bodies.
- 4 Compare analytical and practical solutions of dynamics problems.

5 Model and analyse dynamics problems.

Indicative Content

Dynamics of particles: Rectilinear motion, plane curvilinear motion, rectangular and polar coordinates, relative motion, kinetics of particles.

Kinematics of rigid bodies: Rotation, absolute motion, relative velocity, relative acceleration, motion relative to rotating axes.

Kinetics of rigid bodies: General equations of motion, fixed-axis rotation, general plane motion, work-energy relations, acceleration from work-energy, virtual work.

Dynamic simulation: Kinematics of particles, kinetics of particles, plane kinematics of rigid bodies, plane kinetics of rigid bodies, introduction to three-dimensional dynamics of rigid bodies.

ENG521: Mechatronic Systems Level 5 - Mandatory

Module Abstract

This module will provide the students with a detailed understanding of the nature of mechatronics, and an appreciation that mechatronics is a multi-disciplinary area that encompasses many different specialisms.

Students will investigate the applications of mechatronics, and the nature and component parts of mechatronic systems and products. Typical applications are investigated and then further expanded upon by evaluating the design processes and production methods for mechatronic components and products.

Students will be introduced to hydraulic, pneumatic and robotic concepts and further explore the control and instrumentation facilities that enable their operation. Content will involve: the integration of mechanical, electrical, electronics and control to create and 'intelligent system'; integration, interconnectivity and compatibility of components and control systems and intelligent systems design.

The intended outcomes will enhance the ability of the student to understand these principles and apply them to their working environment to maximise the contributions they can make within the work place.

Learning Outcomes

- 1 Analyse essential concepts, theories and fundamentals of hydraulic and pneumatic systems in the wider context of intelligent systems.
- 2 Evaluate techniques for solving intelligent system problems.
- 3 Identify and apply appropriate control and instrumentation solutions to solve contextualised problems.
- 4 Apply design analysis using mechatronic design philosophies.
- 5 Predict the behavioural characteristics of intelligent engineering systems by triangulating analytical and experimental analysis.
- 6 Evaluate intelligent system design and recommend improvements.

Indicative Content

Mechatronics Intelligent Systems: What makes an intelligent system, examples and applications, integration, interconnectivity and compatibility of components and control systems, intelligent systems design.

Controls and Instrumentation: Instrumentation systems, process control systems, regulating units.

Pneumatics: Types; construction, operation and functionality, performance characteristics, design and control of pneumatic circuits (directional, piloted, reciprocating control), fail-safe systems.

Hydraulics: Types, construction, operation and functionality, performance characteristic,; design and control of hydraulic circuits (multi-actuator, regenerative, counterbalance, meter-in and meter-out), fail-safe systems.

Robots and Robotics: Purpose and function, robots linked into a system (manipulator, control and intelligence, error sources and accumulation), robot cells and design.

Sensors: Purpose and function, different types and application.

ENG522: Electrical and Electronic Systems Level 5 - Mandatory

Module Abstract

This module will develop students' understanding of electrical and electronic systems and how they are essential within the field of mechatronics.

The module has been designed to encompass two key areas: electrical systems and electronic systems. Within both areas, there is a practical emphasis that will engage students and develop a deeper understanding of these systems and how they integrate into practical electrical, electronic and mechatronic applications.

The electrical aspects cover topics such as magnetism and magnetic circuits, DC circuits and analysis, three phase systems and power dissipation and measurement. Electronics topics explore the application of phase-locked loops, conversion of analogue / digital systems and their relative performance and also design of electronic systems.

The module will enhance the ability of the students to competently develop and research such systems applying their knowledge to maximise the contributions they can make within the work place.

Learning Outcomes

- 1 Investigate and analyse the concepts of electrical and electronic systems.
- 2 Configure experiment and evidence measurements to an accurate standard within a laboratory report.
- 3 Compare and contrast the behavioural characteristics of electrical and electronic systems by triangulating analytical and experimental analysis.
- 4 Identify the limitations of analytical techniques and work with technical uncertainty.
- 5 Apply analytical techniques for solving electrical systems problems.

Indicative Content

Magnetism and magnetic circuits.

DC Circuits: Mesh, nodal, Maxwell's, star delta transforms.

Three phase systems.

Power dissipation and measurement.

Harmonics.

Resonant circuits.

Phase-locked loops (PLL's) and applications.

Analogue-to-Digital (A-to-D) and Digital-to-Analogue (D-to-A) conversion techniques.

Performance parameters of A-to-D and D-to-A.

Design procedures for logic circuits, state transition diagrams, current-state/next-state tables, data-selector logic, MSI devices.

ENG601: Dissertation Level 6 - Mandatory

Module Abstract

This module provides the opportunity to engage in a substantial written dissertation (synoptic project) which will enable the application of core and specialist engineering knowledge, skills and behaviours developed on the programme.

The project will be negotiated, planned and completed in conjunction with their designated subject specific supervisor and also the module tutor. This dissertation will enable evidencing critical thinking, problem identification and solving skills, business and commercial understanding along with the competencies, behaviours and aptitudes of a professional engineer.

The dissertation will culminate in a written dissertation and presentation of the outcomes to a panel of tutors, supervisors and (where applicable) external guests.

Learning Outcomes

- 1 Plan and negotiate a suitable industry related project proposal identifying the systems, tools and platforms required.
- 2 Plan and carry out a programme of work with limited supervision producing a project output supported by appropriate analysis, design, evidence of functionality and testing.
- 3 Critically analyse and present project findings and recommendations.
- 4 Communicate the nature, rationale and outcomes of the work to specific audiences.
- 5 Critically reflect upon the dissertation process, evaluating the achievements and outcomes.

Indicative Content

Project proposal, planning and structure

Project scheduling and milestones

Risk and time management

Literature Reviews

Collecting and analysing data

Testing and implementation

Triangulation

Evaluation

Communication and Dissemination

ENG602: Professional Engineer Level 6 - Mandatory

Module Abstract

This module examines the role of a professional engineer, with a particular focus on developing individuals in readiness for professional registration and ultimate Incorporated / Chartered Engineering Status in line with the UKSPEC (Third Edition, 2014). This module focuses particularly on the following 3 (of the 5) areas of competence and commitment:

- C - Responsibility, management or leadership
- D - Communication and inter-personal skills
- E - Professional commitment

The module explores the above areas in the context of: business management; continuous improvement; team leadership; quality management; codes of conduct; safe systems of work; sustainability; legal and environmental obligations whilst critically evaluating morals and ethics relating to the professional engineering role.

Highly sophisticated systems present modern engineers with some considerable technical challenges within an intricate and interrelated construct. Rich case study investigations will draw on the knowledge and skills learnt throughout this degree programme, providing thought provoking and challenging debate through technical presentation and conclusion formulation through the use of theory, research and rationalisation.

This module integrates across other more technical modules at this level to align and develop the personal and professional attributes and behaviours required of a modern engineer in a competitive and exciting engineering environment.

Learning Outcomes

- 1 Critically analyse and apply theories and models of business management.
- 2 Critically evaluate the concepts of sustainability, ethics, environmental and legal / moral factors and their application within an engineering context.
- 3 Evaluate people management and behavioural analysis, relating to engineering environments.
- 4 Analyse and evaluate personal and professional development.
- 5 Critically evaluate own behaviours and attitudes, aligned to levels of professionalism.

Indicative Content

Business management: legal and moral obligations, codes of conduct, safe systems of work, environmental, ethical and global considerations, sustainability, continuous improvement, quality management.

People management and human factors: Behaviours and working relationships, communication, success factors and measures, intelligence, skills and motivation, professionalism, encouraging change and progressive thinking.

Problem identification and solving, forward thinking and challenging the norm, use of industry appropriate language, evaluating change.

Professional Development: Self-evaluation and continuous professional development, post-graduate study and research, professional bodies and membership, professional engineering networks, professional registration and status.

ENG603: Control and Simulation

Level 6 - Mandatory

Module Abstract

Control engineering applies relevant theory in order to design a system with desired responses. This module is multi-disciplinary and will contextualise theory into both mechanical and mechatronic applications. From simple electrical devices to complex machines control engineering has a diverse field of applications.

The module will embed the topics studied at prior levels and integrate the application and theory of control. The module includes an introduction to control theory that will develop moving onto advanced theory, covering topics such as: First and second-order systems; open and closed-loop systems investigating feedback methods and the performance and stability of such. Proportional, integral and derivative control (PID) will be also investigated and evaluated.

Engineers will also develop an appreciation of simulation techniques utilising industry-standard, commercial software packages such as Matlab and Simulink, providing a rich and diverse experimental environment for dynamic research and enquiry.

Learning Outcomes

- 1 Solve control problems applying appropriate analysis methodology.
- 2 Critically evaluate analytical and practical techniques of PID control system design.
- 3 Analyse the performance and stability of open and closed-loop systems.
- 4 Analyse control engineering principles to solve contextualised problems.
- 5 Critically evaluate computer based analysis to solve control system problems.

Indicative Content

First-order systems: Systems and block diagrams, first-order system model, step response, process time delays.

Second-order systems: Transfer functions, solving second-order equations, modelling with deadtime.

Performance and Stability: Open and closed-loop systems, feedback, steady-state and transient behaviour, poles and zeroes.

PID Control: Proportional control, integral control, derivative control, proportional control of a first-order

system, proportional and integral control of a first-order system, proportional and derivative control, PID controller design by pole placement.

Simulation: Transfer functions in MATLAB, MATLAB Pade approximant, building a Simulink model, analysis of a Simulink model, finding step response in first-order systems, second-order systems with deadtime, PID Control.

ENG621: Microprocessors and Microcontrollers

Level 6 - Mandatory

Module Abstract

Within domestic devices or industrial systems, the core mechatronic control undoubtedly will have some form of microprocessor based system.

Given the extent of computerisation within many specialist industries such as aerospace engineering, automotive, robotics and communications this module has been designed with a practical emphasis reflecting on microprocessor and microcontroller principles in order for the student to apply their knowledge in an industrial environment.

Students will analyse micro systems in both a theoretical and practical environment, exploring the key and fundamental concepts and theories within the envelope of design, manufacture and test whilst applying a systems design approach.

The module will explore the history and progressive development of such systems, the architecture and configuration expanding to programming, design and test of microprocessor and microcontroller systems.

The learning outcomes will enhance the ability of the student to competently develop and research such systems applying their knowledge to maximise the contributions they can make within the work place.

Learning Outcomes

- 1 Critically appraise the evolution, capabilities and applications of microprocessor / microcontroller based systems.
- 2 Apply and evaluate appropriate principles of programming.
- 3 Implement and integrate systems development techniques.
- 4 Critically evaluate solutions via a range of problem solving techniques.
- 5 Compile solutions to microprocessor / microcontroller based problems.
- 6 Interface a range of transducers with microprocessor / microcontroller based systems.

Indicative Content

History: Evolution of microprocessor systems, analogue and digital systems - precursors, microprocessor generic devices, internal structures, registers, pipelines.

Microcomputer system architecture and support devices: 3-bus structures, RAM, ROM, programmable and non-programmable input/output devices (for example PIA, VIA), memory mapping, address decoding, chip selection, microprocessor instruction codes and addressing modes, transducers / sensors, interfacing methods with micro- systems, control of processes.

Programming and coding: Principles, machine code, assembly language, (high-level languages – EC), structured programming, flowcharts.

PIC Microcontrollers: Range of devices available, internal architecture, RISC, PIC programming techniques, applications and limitations of PIC chips.

Compile and debug programs for given scenarios, demonstrate programs running correctly (microprocessor- based and microcontroller systems).

Design Process: Systems life cycle and the 'waterfall' model, nature and content of a functional specification, design software using a structured design technique, programming concepts and good practice.

Software: Testing techniques, evolution of software 1GL 2GL 3GL, de bugging, problem solving theories and techniques (abstraction, decision trees, algorithms) well and ill-defined problems, extract / discover the elements to the solution of a problem, PID Control.

ENG622: Electrical Power Level 6 - Mandatory

Module Abstract

In this module you will learn essentials about power transformers, their actions and operating characteristics. You will become able to identify and critically analyse various single and three phase rectifier circuits, frequency conversion inverter operations and the general principles of rotating machines.

You will perform calculations which will enable you to critically evaluate the security and stability of various applications, systems and networks. You will also learn about instrumentation used for power systems control, protection, fault detection and many others. Assessments are distributed between classwork and a formal written examination.

Learning Outcomes

- 1 Identify the actions and operating characteristics of power transformers.
- 2 Critically analyse single and three phase rectifier circuits, fully controlled, half controlled and uncontrolled.
- 3 Critically analyse frequency conversion inverter operation: variable voltage variable frequency control and pulse width modulation (PWM) techniques.
- 4 Analyse the performance and general principles of rotating machines: synchronous, asynchronous and DC machines.
- 5 Critically evaluate with the aid of calculations, the application of security on High and Low voltage supplies to industrial plant and stability of distribution networks.
- 6 Analyse the application of instrumentation used for power systems, protection relays and other fault detection equipment.

Indicative Content

Power systems fault, stability and security

Fully controlled, half-controlled and uncontrolled single and three phase rectifier circuits

Synchronous, asynchronous and DC machines

High and low voltage supply

Industrial plants, distribution networks, electrical power networks

Instrumentation, protection relays, fault detection equipment

Be able to analyse magnetic circuits:

Investigate and analyse the concepts of magnetic circuits, series, parallel self and mutual inductance. Core seizing and B/H characteristics. Three phase transformer construction (Shell / core) types of connection; Vector grouping, star, delta, zig zag and parallel operation, calculations of efficiency regulation and short circuit currents.

Motor control and power electronic control.

Characteristics of AC / DC motor, starting methods, AC motor control (Inverter), DC motor control (controlled rectifier). Calculation of efficiency, starting torque / current.

Advanced three phase systems:

Faulty and unfaulty three phase 4 wire and 3 wire systems, Types of electrical networks TN-s, TN-c-s, TN-c, system topology and system integrity, radial feeders, parallel feeders open ring and closed ring, permissible voltage drop, power losses and power efficiency.

Applications of Power Electronics

Voltage / Power regulation (Phase angle or burst fire), UPS / battery storage / battery charging / Grid tie inverter. Power Electronics used within the renewable energy sector.

ADDITIONAL COSTS

Read our [tuition fees guide](#).

There may be additional costs to consider such as optional educational visits and photocopying/printing.

It is highly recommended (but not mandated) that at the start of your programme, you apply for student membership through a professional organisation such as IMechE or IET. Some organisations provide discounted student membership whilst for others there is no charge.

- IMechE - Affiliate Member*: No charge for an apprentice or studying engineering at college or an undergraduate student studying a STEM degree.
- IET* - Students and apprentices (one year) £20.00. Students and apprentices (for duration of course, up to five years) £50.00

* Correct and 2016

EQUIPMENT REQUIREMENTS

Equipment Needs:

You will need your own scientific calculator; we recommend the Casio FFX-91ES (costs start from around £15). Books, Journals and electronic resources can be accessed via the College Learning Resources facility.

Cost Benefits:

As a student on our programmes you are entitled to discounted (and some free) edition software for educational use. Offers vary from year to year but: Microsoft Student packages, Computer Aided Design and Computation Fluid Dynamics Software are examples of this. Tutors will advise of opportunities available when you start the programme.

STUDENT PROTECTION PLAN

The B&FC [Student Protection Plan](#) sets out the measures that we have put in place to protect you as a

student in the unlikely situation where a risk to the continuation of your studies arises. Our plan has been approved by the Office for Students and is available on our website

<https://www.blackpool.ac.uk/info-for-he-students>