Programme Specification

MEng, BEng (Hons) Mechanical Engineering 2015/16

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

Awarding Institution	University of Southampton
Teaching Institution	University of Southampton, University of Southampton Malaysia Campus (international students for Parts I & II only)
Mode of study	Full time
Duration	4 years (MEng), 3 years (BEng)
Accreditation details	Institution of Mechanical Engineers MEng accredited for registration as a Chartered Engineer for graduates with a 2.2 and above BEng (Honours) accredited for registration as a Chartered Engineer subject to the completion of approved additional learning
Final award	Bachelor of Engineering (with Honours) (BEng) Master of Engineering (MEng)
Name of award	Mechanical Engineering Mechanical Engineering / Engineering Management Mechanical Engineering / Sustainable Energy Systems Mechanical Engineering / Mechatronics Mechanical Engineering / Biomedical Engineering Mechanical Engineering / Advanced Materials Mechanical Engineering / Aerospace Mechanical Engineering / Automotive Mechanical Engineering / Naval Engineering Mechanical Engineering / Acoustical Engineering Mechanical Engineering / Computational Engineering and Design
Interim Exit awards	Certificate of Higher Education Diploma of Higher Education Bachelor of Science (Ordinary)
FHEQ level of final award	Level 6 (BEng), Level 7 (MEng)
UCAS code	H300, BEng Mechanical Engineering H301, MEng Mechanical Engineering HH32, MEng Mechanical Engineering/Sustainable Energy Systems HN32, MEng Mechanical Engineering/Engineering Management HH37, MEng Mechanical Engineering/Mechatronics 4R29, MEng Mechanical Engineering/Biomedical Engineering HJ35, MEng Mechanical Engineering/Advanced Materials HH34, MEng Mechanical Engineering/Aerospace H390, MEng Mechanical Engineering/Automotive HH35, MEng Mechanical Engineering/Naval Engineering

	4R23 Mechanical Engineering/Acoustical Engineering 5P01 Mechanical Engineering/Computational Engineering and Design
QAA Subject Benchmark or other external reference	Engineering, Engineering Council, UK-SPEC
Director of Programme	Dr J.A. Wharton
Date specification was written	March 2003 (N.G. Stephen) and June 2013 (M.J. Starink)
Date programme was validated	July 2014
Date specification last updated	September 2015

As a research-led University, we undertake a continuous review of our programmes to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration; however, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our Disclaimer to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's programme validation process which is described in the University's quality handbook.

Educational Aims of the Programme

As defined by the Institution of Mechanical Engineers (IMechE), Mechanical Engineering is concerned with "the innovative application of engineering and management sciences that underpin existing and emerging technologies to the complete life cycle of all mechanical devices, machines and systems." A Mechanical Engineer needs to be skilled in the application of a knowledge based on mathematics, science, design, materials and manufacturing, integrated with business and management to develop sustainable and environmentally compatible technological solutions that provide the infrastructure, goods and services needed by society.

The aims of the BEng and MEng Mechanical Engineering (Mech Eng) programmes are to:
(Blue = both BEng & MEng Mech Eng; black = BEng only; *green italics* = MEng only)

- Provide you, in Parts I and II, with a sound understanding of the fundamental principles, methods, analysis and synthesis in engineering design and applications appropriate to the discipline of Mechanical Engineering.
- Provide you, in Part III with opportunities to study specialist modules integrated within the structured learning environment, reflecting the internationally renowned research expertise within the Faculty
- *Provide you, in Part III and IV (MEng) with a range of specialist modules integrated within the structured learning environment, reflecting the internationally renowned research expertise within the Faculty, in order to broaden and deepen your educational experience.*
- Train you to enable you to become professional engineers that meet many of the educational requirements of the Engineering Council (i.e. UK-SPEC), and to have a broad range of knowledge and skills (including IT and communication) capable of meeting the present and future demands of industry and commerce.
- *Train you to enable you to become professional engineers that meet the educational requirements of the Engineering Council (i.e. UK-SPEC), and to have a broad range of knowledge and skills (including IT and communication) capable of meeting the present and future demands of industry and commerce.*
- Offer you a degree structure that is relevant to industry and responsive to changes in technology and the needs of the community.
- Provide you with a supportive and intellectually stimulating environment that encourages an attitude of independent learning and enquiry, and fosters an ethos of lifetime learning and professional development.
- Offer you an individual project and group assignments which are supported by the research activities within the Faculty and stimulate individual innovation and self-assessment required in engineering design.
- *Offer you an individual and a group design project which are supported by the research activities within the Faculty and stimulate individual innovation, self-assessment and teamwork skills required in engineering design.*

Programme Learning Outcomes

The programme provides opportunities for you to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have been developed with reference to the Accrediting Institution guidelines and the UK-SPEC Degree Output Standards General and Specific Learning Outcomes.

Knowledge and Understanding

Having successfully completed this programme you will be able to demonstrate knowledge and understanding of:

(Blue = both BEng & MEng Mech Eng; black = BEng only; *green italics* = MEng only)

1. Mathematics and science that are relevant to Mechanical Engineering.
2. The fundamental concepts, principles and theories of Mechanical Engineering, and an appreciation of their limitations.
   The fundamental and advanced concepts, principles and theories of Mechanical Engineering, and an appreciation of their limitations.
3. Concepts from a range of areas from other engineering disciplines and outside engineering, and the ability to apply them effectively in engineering projects.
4. The principles of engineering design and manufacture and their application to conceptual and detailed design.
5. Information and communication technology (ICT) relevant to the practice of Mechanical Engineering.
6. Management and business practices that are relevant to Mechanical Engineering.
   Advanced management and business practices that are relevant to Mechanical Engineering.
7. Health and safety issues, risk assessment and regulatory frameworks.
8. The social and professional responsibilities of Mechanical engineers.
9. Environmental issues and the importance of Mechanical Engineering to the quality of the environment.
   Environmental issues, advanced environmental aspects of engineering and the importance of Mechanical Engineering to the quality of the environment.
10. The role of the engineer in society and the constraints within which their engineering judgement will be exercised.
11. *Material relevant to your specialist theme at an advanced level.*

Teaching and Learning Methods

Acquisition of 1 is through a combination of lectures, tutorials (small group teaching), example classes, laboratory experiments, coursework and projects.
Acquisition of 2 - 5 is through a combination of lectures, tutorials, example classes, laboratory experiments, coursework and individual and group projects at all Levels.
Acquisition of 6, 7, 9 and 11 is through a combination of formal and special lectures, coursework and projects throughout the programme. Acquisition of 6 is further enhanced when you opt for the Engineering Management theme.
Acquisition of 8 is through lectures and coursework throughout the programme.
Throughout the programme students are encouraged to use additional recommended reading material for private study to consolidate the formal learning process, and to broaden and deepen their understanding. All students are encouraged to become student members of the professional institution, to use their libraries and resources, and attend meetings.
Acquisition of 10 is through lectures and coursework in part 1 and the project activities at level 6 (BEng and MEng) and 7 (MEng only).
Acquisition of 11 is through the compulsory specialist level 6 and level 7 modules in Parts 3 and 4 (MEng only).

Assessment Methods

Testing of the knowledge base and understanding is through a combination of unseen written examinations (1, 2, 5, 6, 11) and assessed coursework in the form of problem solving exercises (1-4), laboratory reports (2-4), design exercises (4, 6-9), essays (7-9) and individual and group projects (2-10, 11).

Subject Specific Intellectual and Research Skills

Having successfully completed this programme you will be able to:

(Blue = both BEng & MEng Mech Eng; black = BEng only; *green italics* = MEng only)

1. Plan, conduct and report on an individual research programme.
   Plan, conduct and report on individual and group research programmes.
2. Analyse and solve engineering problems, using appropriate mathematical and software methods as necessary.
   Analyse and solve complex engineering problems, using appropriate mathematical and software methods as necessary, demonstrating the ability to define the limitations of your chosen methods.
3. Be creative in the solution of problems and in design development.
   Be creative in the solution of problems, in design development showing significant originality.
4. Design engineering elements and systems to meet a need, evaluate outcomes and make improvements.
   Design engineering elements and integrated systems to meet a need, evaluate outcomes critically and comprehensively & make improvements.
5. Integrate and evaluate information and data from a variety of sources.
   Integrate and evaluate complex information and data from a wide variety of sources.
6. Take a structured approach to solving problems and designing systems, applying professional judgement to balance risks, cost, benefits, safety, reliability, aesthetics and environmental impact.

Teaching and Learning Methods

Intellectual skills are developed through the teaching and learning activities.
Analysis and problem solving skills are further developed through regular problem sheets issued by module lecturers and through small group teaching.
Experimental, research and design skills are further developed through coursework exercises, laboratory work, and design and research projects. Individual feedback is provided on all work submitted. Appreciation of the practical application of these skills (in particular skill 6) is provided by interaction with industry, through visiting lectures and industrial visits.

Assessment Methods

Analysis and problem solving skills are assessed through unseen written examinations and problem based exercises.
Experimental, research and design skills are assessed through laboratory reports, coursework exercises, project reports and oral presentations.

Transferable and Generic Skills

Having successfully completed this programme you will be able to:

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1. Communicate effectively – in writing, verbally and through drawings.
2. Apply mathematical skills – algebra, geometry, modelling and analysis.
   Apply a wide range of mathematical skills – algebra, geometry, advanced modelling and analysis.
3. Learn independently in familiar and unfamiliar situations with open-mindedness and self-reflection.
   Learn independently in familiar and unfamiliar situations with open-mindedness and in a spirit of critical enquiry.
4. Work constructively as a member of a team.
   Work constructively as a member of a team able to take a variety of roles.
5. Manage time and resources.

6. Use Information and Communications Technology.
7. Use the library, internet and other sources effectively.
   Use the library, internet and other sources effectively and critically.
8. Manage tasks and solve problems, transfer techniques and solutions from one area to another, apply judgement.
   Manage tasks and solve novel problems, transfer techniques and solutions from one area to another, apply critical analysis and judgement.
9. Learn effectively for the purpose of continuing professional development and in a wider context throughout their career.
10. Communicate in a foreign language when you select a language option.

Teaching and Learning Methods

Transferable skills are developed through the teaching and learning activities.
Skill 1 is acquired and developed at all Levels through technical reports (e.g. assignments, laboratory and project reports) and presentations.
Skill 2 is taught formally in Parts I and II, and developed throughout the course.
Skill 4 is developed through group laboratory experiments and group project work.
Skill 5 is developed through the setting and strict enforcement of coursework deadlines.
Skill 6 is developed through computing modules, laboratory experiments, project work, presentations, other coursework activities and individual learning.
Skill 7 is enhanced through the information retrieval exercise in Part II and developed through essays, individual and group projects and, for the MEng only, the group design project.
Skill 8 is developed in the technical subject areas of the course.
Skill 10 is cultivated when you opt to study a language or to study abroad for one semester, normally in Part III or Part IV.
Although not explicitly taught, skills 3 and 9, as well as all other skills are nurtured and developed throughout the course, which is structured and delivered in such a way as to promote them.

Assessment Methods

Skill 1 is assessed through coursework and laboratory technical reports and project presentations.
Skill 2 is assessed through unseen written examinations and coursework.
Skill 4 is, mainly, assessed in group projects.
Skill 5 is assessed by applying penalties for failure to meet deadlines.
Skill 6 is assessed formally in relevant Part I and Part II modules and further assessed throughout the course where ICT is used.
Skills 7 and 8 are assessed through unseen written examinations, coursework exercises, design work and individual and group project work.
Skill 9 is essential for success on the course and future professional development, but is not formally assessed.
Skill 10 is assessed through coursework and written examinations as part of the specialist language modules.

Subject Specific Practical Skills

Having successfully completed this programme you will be able to:

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1. Carry out safely a series of planned experiments.
2. Use laboratory equipment to generate data.
3. Analyse experimental results and assess their validity.
   Analyse complex experimental results and assess their validity and applicability.
4. Prepare technical drawings including the use of computer-aided design (CAD) and freehand sketching.
5. Prepare technical reports.
   Prepare technical reports individually and by contributing as part of a group.
6. Give technical presentations using a variety of media.
7. Use computer packages and write computer programs.
   Use computer packages and write computer programs showing awareness of the limitations of such numerical methods in engineering applications.
8. Make effective use of scientific literature.
   Make effective use of scientific literature from various sources.

Teaching and Learning Methods

Practical skills are developed through the teaching and learning programme.
Experimental skills are developed through laboratory experiments and project work, if relevant.
Workshop skills are developed through workshop practice in Part I.
Skill 4 is taught in the Design module in Part I and further developed through design coursework exercises.
Skills 5 and 6 are acquired through guidelines set out in relevant course books and reports and project presentations throughout the programme.
Skill 7 is taught in relevant modules in Parts I and II and further developed through coursework exercises and project work.
Skill 8 is acquired through information retrieval in preparation for project work.

Assessment Methods

Practical skills are assessed through laboratory experiment reports, coursework exercises, project reports and presentations.

Programme outcomes for different exit points

Level 4 (Part I)	You will have a sound knowledge of the basic concepts in Mechanical Engineering, and will have learned how to take different approaches to solving problems. You will be able to communicate accurately, and will have the qualities needed for employment requiring the exercise of some personal responsibility.
Level 5 (Part II)	You will have developed a sound understanding of the principles involved in a range of core Mechanical Engineering subjects, and will have learned to apply those principles more widely. Through this, you will have learned to evaluate the appropriateness of different approaches to solving problems. You will have the qualities necessary for employment in situations requiring the exercise of personal responsibility and decision-making.
Level 6 BEng	You will have developed an understanding of a complex body of knowledge relevant to Mechanical Engineering, some of it at the forefront of current developments. Through this, you will have developed analytical techniques and problem-solving skills that can be applied to a range of engineering problems, and learned to communicate these effectively. As an Honours graduate you will be able to evaluate evidence, arguments and assumptions, and to reach sound judgements. You should have the qualities needed for employment in situations requiring the exercise of personal responsibility, and decision-making in complex and unpredictable circumstances.
Level 7 MEng	Much of the study undertaken at Masters level reflects research at the forefront of Mechanical Engineering. You will have shown originality in the application of knowledge, and you will understand how the boundaries of knowledge are advanced through research. You will be able to deal with complex issues both systematically and creatively, and show originality in tackling and solving problems individually and as part of a team. You will have the qualities needed for employment in circumstances requiring sound judgement, personal responsibility and initiative, in complex and unpredictable professional environments.

Graduate Attributes

Graduate Attributes are the personal qualities, skills and understanding you can develop during your studies. They include but extend beyond your knowledge of an academic discipline and its technical proficiencies. The Graduate Attributes are important because they equip you for the challenge of contributing to your chosen profession and may enable you to take a leading role in shaping the society in which you live.

The University of Southampton identifies a set of undergraduate attributes that aspire to support graduate employment. We offer you the opportunity to develop these attributes through your successful engagement with the learning and teaching of your programme and your active participation in University life. The skills, knowledge and personal qualities that underpin the

Graduate Attributes framework are supported by your discipline. As such, each attribute is enriched, made distinct and expressed through the variety of learning experiences you will experience. Your development of Graduate Attributes presumes basic competencies on entry to the University.

Programme Structure

The University uses the European Credit Transfer Scheme (ECTS) to indicate the approximate amount of time a typical student can expect to spend in order to complete successfully a given module or programme, where 1 ECTS indicates around 20 nominal hours of study. Previously, Credit Accumulation and Transfer Scheme (CATS) points were used for this purpose where 1 CATS credit was 10 nominal hours of study. The University credit accumulation and transfer scheme is detailed at http://www.calendar.soton.ac.uk/sectionIV/cats.html.

The teaching is structured on a semester pattern. You study modules comprising 60 ECTS (120 CATS) in each of Parts I (level 4), II (level 5) and III (level 6), and 75 ECTS (150 credits) in Part IV (level 7). There are several degree possibilities in the programme of study:

- Three years full-time, leading to a Bachelor of Engineering (BEng) with Honours.
- Four years full-time, leading to a Master of Engineering (MEng).

In addition there are the following exit points:

- Certificate of Higher Education, following successful completion of Part I.
- Diploma of Higher Education, following successful completion of Part II.
- Bachelor of Science (Ordinary Degree) following successful completion of at least 150 ECTS (300 CATS), including 30 ECTS (60 CATS) at level 6.

Each module is a self-contained part of the programme of study and carries a credit rating.

Progression through the programme and classification of degrees are regulated by the standard university progression and classification rules which may be found in section IV of the University Calendar (http://www.calendar.soton.ac.uk/sectionIV/sectIV-index.html) and in particular at http://www.calendar.soton.ac.uk/sectionIV/credit-bearing-progs.html and http://www.calendar.soton.ac.uk/sectionIV/progression-regs.html.

The duration of all the programmes may be extended by one year through enrolment on the Engineering Foundation Year.

The Programme Structure is outlined in Appendix 1.

All students on the MEng programme are registered on themes which are associated with UCAS entry codes and award titles as shown in the below table. Parts 1 and 2 are common for all themes and all MEng students are invited to consider changing or selecting themes at the conclusion of Part 2.

MEng Theme	UCAS code and UCAS name	Award Title
Acoustical Engineering	4R23 Mechanical Engineering / Acoustical Engineering	Mechanical Engineering / Acoustical Engineering
Advanced Materials	HJ35, MEng Mechanical Engineering / Advanced Materials	Mechanical Engineering / Advanced Materials
Aerospace	HH34, MEng Mechanical Engineering / Aerospace	Mechanical Engineering / Aerospace
Automotive	H390, MEng Mechanical Engineering / Automotive	Mechanical Engineering / Automotive
Biomedical Engineering	4R29, MEng Mechanical Engineering / Biomedical Engineering	Mechanical Engineering / Biomedical Engineering
Computational Engineering and Design	5P01 Mechanical Engineering / Computational Engineering and Design	Mechanical Engineering / Computational Engineering and Design
Engineering Management	HN32, MEng Mechanical Engineering / Engineering Management	Mechanical Engineering / Engineering Management

Interdisciplinary	H301, MEng Mechanical Engineering	Mechanical Engineering
Mechatronics	HH37, MEng Mechanical Engineering / Mechatronics	Mechanical Engineering / Mechatronics
Naval Engineering	HH35, MEng Mechanical Engineering / Naval Engineering	Mechanical Engineering / Naval Engineering
Semester in Industry	H301, MEng Mechanical Engineering	Mechanical Engineering
Study Abroad	H301, MEng Mechanical Engineering	Mechanical Engineering
Sustainable Energy Systems	HH32, MEng Mechanical Engineering / Sustainable Energy Systems	Mechanical Engineering / Sustainable Energy Systems

Special Features of the programme

The programme is delivered at the University of Southampton, Southampton, UK, with all Programme Boards, Subject Panels, Exam Boards and Faculty Programme meetings held at Southampton. All module activities are based at or close to Highfield Campus, Southampton, except for the following. Parts 1 and 2 are also delivered at University of Southampton Malaysia Campus (USMC), South Jahore, Malaysia. You can elect to study one or both parts at USMC. (For UK and EU nationals, Government funding/loan for fees may be restricted.) The study abroad themes involve a semester study at a university in France, the USA or Sweden. International study opportunities may be dependent on visa requirements. The Semester in Industry theme includes a 5 month period at a company.

Programme details

The programme follows university guidelines for inclusivity and flexibility and provides and array of teaching and learning approaches that will enable any student who meets the entry requirements to access the curriculum and demonstrate achievement of all the intended learning outcomes.

Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. Costs that students registered for this programme typically also have to pay for are included in Appendix 3.

Progression Requirements

The programme follows the University's regulations for *Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes.*

Intermediate exit points

You will be eligible for an interim exit award if you complete part of the programme but not all of it, as follows:

Qualification	Minimum overall credit in ECTS credits	Minimum ECTS Credits required at level of award
Bachelor of Science (Ordinary)	at least 150	30
Diploma of Higher Education	at least 120	45
Certificate of HE	at least 60	45

Support for Student Learning

There are systems for the support of student learning in the Faculty as well as available from central University facilities.

In the Faculty and your Discipline you will be able to access:

- Student handbook for the programme.
- Introductory sessions for the programme.
- Library information retrieval seminar.
- Workshop training.
- Small group tutorials in Part I of the programme.
- Student Design Resource Room.
- Engineering Development and Manufacturing Centre (EDMC) equipped with a range of workshop equipment, CAD / computer-aided manufacturing (CAM).
- Engineering and general software available on all computers.
- Extensive well equipped Engineering laboratories.
- Advice from engineers in the Research Institute *for* Industry (RI*f*I) on specialised subject areas, including Design.
- Personal tutors to assist you with personal problems and to advise on academic issues (contact maintained during periods of studying abroad).
- Access to academic staff through an open door policy as well as timetabled tutor meetings, appointment system and e-mail.
- Research Seminars and invited lectures.
- IMechE Young Members panel, organised by students on the programme.
- Faculty Student Office for the administration of your programme.

The University provides:

- Public workstations provide a comprehensive range of computer packages including dedicated engineering software, access to databases and e-books, supported by a range of user advisory services.
- Well-stocked library.
- University Counsellors.
- Health Centres.
- Learning Differences Centre for support for dyslexia and other learning differences.
- Enabling Services providing support for student with disabilities.
- Adviser to overseas students.
- Careers Destinations for careers advice.
- Language Centre providing support for English and other languages.
- Student services centre providing advice and support on all aspects of student life.

Methods for Evaluating the Quality of Teaching and Learning

You will have the opportunity to have your say on the quality of the programme in the following ways:

- Anonymous evaluation questionnaires for each module of the programme.
- Acting as or represented by Student Representatives, for each year of the programme, on the staff-student liaison committee. You are also represented on the Faculty Programmes Committee
- Meetings, individually or as group, with programme external examiner.

It should be noted that meetings with personal tutor can also be used to comment on quality related issues.

Feedback on the changes implemented following your input will be provided through the following:

- For each module, changes following the module review, which includes the module survey, will be published on line (through Blackboard).
- The main changes to programme are discussed at the staff-student liaison committee.
- Student representatives are invited to the faculty and discipline programme meetings.

The ways in which the quality of your programme is checked, both inside and outside the University, are:

- Evaluation for each module of the programme based on your feedback from evaluation questionnaires and carried out by lecturer(s) involved in the module and a colleague acting as advisor.
- Cross-faculty Subject Panels and an Education Board responsible for the programme, which each year consider the outcomes of each module's evaluation.
- Moderation of examination papers, coursework and projects, both internally and externally.
- Comments by external examiners, who produce an annual report.
- Annual examiners' meetings and examiners' boards.
- Annual programme and module reviews considering your feedback from all sources, feedback from Subject Panels, external examiners and other bodies and student performance.
- Periodic meetings of the Faculty Industrial Advisory Board.
- Evaluation of results from the National Student Survey and university student surveys by the Mechanical Engineering Education Board
- Accreditation by professional institutions.
- Periodic Programme Review by the University.

Note that quality assurance of part of the programme taken abroad, where applicable, is subject to the quality procedures of the relevant institutions. These procedures are subject to periodic monitoring by members of staff of the Faculty of Engineering and the Environment.

Criteria for Admission

A typical offer for entry to our BEng and MEng degrees may be found on the University website at http://www.southampton.ac.uk/engineering/undergraduate/courses/mechanical_engineering/h301_meng_mechanical_engineering.page#entry.

Equality and diversity
In accordance with the University's Equality and Diversity Policy, all reasonable effort will be made to ensure that no prospective or existing student is treated less favourably on the grounds of age, race, colour, nationality, ethnic origin, creed, disability, HIV status, sexual orientation, gender, marital or parental/carer status, political belief or social or economic class, or any other type of discrimination.

Disabled applicants will be treated according to the same procedures as any other applicant with the added involvement of Enabling Services to assess their needs. The programme may require adaptation for students with disabilities (e.g. hearing impairment, visual impairment, mobility difficulties, dyslexia), particularly the practical laboratory sessions, and we will attempt to accommodate students wherever possible.

Further general information on admissions and university regulations governing admission are provided on the University website at www.calendar.soton.ac.uk/sectionIV/sectIV-index.html.

The University's Admissions Policy www.southampton.ac.uk/admissions_policy applies equally to all programmes of study. The following are the typical entry criteria to be used for selecting candidates for admission. The University's approved equivalencies for the requirements listed below will also be acceptable. The entry criteria for our programmes are reviewed annually by the Faculty. Those stated below were correct as of July 2015. Applicants should refer to their specific offer conditions on their offer letter.

Undergraduate programmes

Qualification	Grades	Subjects required	Subjects not accepted	EPQ Alternative offer (if applicable)	Contextual Alternative offer (if applicable)
GCE A level	A*AA (A*A in Mathematics and Physics)	Mathematics Physics	General Studies Critical Thinking Use of Maths Thinking Skills	A*ABa (A*A in Mathematics and Physics, B third subject and A in EPQ)	AAB (AA in Mathematics and Physics B third subject)
BTEC	D*DD	Analytical	Na	Na	DDD including

	including distinctions in Analytical Methods and Further Analytical Methods	Methods Further Analytical Methods			distinctions in Analytical Methods and Further Analytical Methods
International Baccalaureate	38 Points overall, 18 at Higher Level including 6 in Higher Level Mathematics and 6 in Higher Level Physics	Higher Level Mathematics Physics	Na	Na	36 Points overall, 17 at Higher Level including 6 in Higher Level Mathematics and 6 in Higher Level Physics
GCSE	C	English			
	B	Mathematics			

Mature applicants
Mature applicants are offered the Engineering Foundation Year

Recognition of Prior Learning (RPL)
The University has a **Recognition of Prior Learning Policy.** Entry to Part II is acceptable upon completion of a comparative Part I and / or Part II at another institution. Each case is assessed on an individual assessment based on copies of transcripts and Learning outcomes.

English Language Proficiency

As per the University's Admissions policy on English Language requirements, found here, www.southampton.ac.uk/admissions-language the requirements for this programme are:
International English Language Testing System (IELTS) – Band C

Overall	Reading	Writing	Speaking	Listening
6.5	5.5	5.5	5.5	5.5

ATAS
This programme is subject to the UK Government's Academic Technology Approval Scheme (ATAS). Before you can commence this programme you need to obtain ATAS clearance from the Foreign and Commonwealth Office. Applications for ATAS clearance are free of charge and should be made no earlier than six months prior to the aforementioned start date. ATAS clearance will need to be demonstrated if you need to apply for a Tier 4 student visa.

External Examiners(s) for the programme

Name: Professor John Dear
Institution: Imperial College, London

Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.

External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their personal tutor in the first instance.

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and

demonstrate if s/he takes full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook at http://www.southampton.ac.uk/studentservices/academic-life/faculty-handbooks.page and at http://www.southampton.ac.uk/engineering/undergraduate/courses/mechanical_engineering_list.page.

Revision History
October 2004 (M. Hill)
October 2005 (M. Hill)
September 2006 (S.M. Sharkh)
September 2007 (S.M. Sharkh)
April 2008 (S.M. Sharkh)
February 2012 (A Barney)
July 2012 (B.Leigh)
May 2013 (M.J. Starink) (AY2013-14 specifications)
June 2013 (M.J. Starink) (AY2014-15 specifications, incl a complete rewrite of programme content)
23 Nov 2013 (M.J. Starink)_CQA
18 Feb & 7 May 2014 (M.J. Starink)_CQA_150714
Update to Programme Overview (CMA Changes) – 14 September 2015

Appendix 1

Programme Structure

The information within this Appendix is liable to change in minor ways from year to year. It is accurate at the time of writing.

UNIVERSITY OF Southampton

MEng (Hons), BEng (Hons) Mechanical Engineering

MODULE TITLE	CODE	Level	CATS points	KU1	KU2	KU3	IA1	IA2	IA3	PS1	GT1	US1/US1m	US2/US2m	US3/US3m	US4m	E1/E1m	E2/E2m	E3/E3m	E4	D1/D1m	D2	D3	D4/D4m	D5	D6	S1/S1m	S2/S2m	S3	S4	S5	P1/P1m	P2/P2m	P3	P4	P5	P6	P7	P8/P8m	EXAM	TEAMWORK	ESSAY	LABORATORY	REPORT	PRESENT'N	ASSESSED PROBLEMS & CASE STUDIES	PROJECT	CAA	IN-CLASS TEST	OTHER
Design and computing	FEEG1001	4	30	✓	✓		✓	✓		✓	✓	✓	✓	✓			m	✓					✓	✓	✓			✓			✓	✓							30%	✓		7%	✓		30%			33%		
Mechanics, structures and materials	FEEG1002	4	30	✓			✓	✓								✓	✓											✓				✓	✓						70%			5%			25%					
Thermofluids	FEEG1003	4	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓									✓					✓							70%			10%			20%					
Electrical and electronic systems	FEEG1004	4	15	✓	✓		✓			✓	✓	✓	✓	✓		✓										✓		✓			✓	✓						50%			10%							40%	
Mathematics for Eng. and the Environment	MATH1054	4	15	✓			✓				✓		✓	✓				✓																				80%										20%	
Professional Eng. and Functional Materials	SESM1015	4	15	✓	✓	✓			✓		✓	✓		✓		m				✓		✓				✓		✓	✓	✓			✓	✓		✓				✓	100%									
Systems Design and Computing	FEEG2001	5	15	✓	✓	✓	✓		✓	✓	✓	m	m	✓		✓	m	m	✓	m	✓	✓	m	✓	✓		✓				m	m	✓			✓	✓			✓				20%	80%			
Mechanics Machines and Vibration	FEEG2002	5	15	✓			✓		✓	✓	✓	m	✓			✓	✓	✓	✓						✓						✓							70%			20%			10%					
Fluid Mechanics	FEEG2003	5	15	✓			✓			✓	✓	✓	✓	✓		✓	✓	✓							✓						✓	✓	✓	✓				✓	70%			15%			15%					
Electronics Drives and Control	FEEG2004	5	15	✓	✓		✓			✓		✓	✓	✓		✓	✓		✓												✓	✓						65%			20%			8%				7%	
Materials and Structures	FEEG2005	5	15	✓	✓		✓	✓		✓		✓	✓			✓	✓	✓		✓		✓									✓	✓					✓	70%			30%								
Engineering Management and Law	FEEG2006	5	15		✓	✓	✓	✓	✓			✓	✓						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓			78%				22%		
Mathematics for Eng. and the Environment	MATH2048	5	15	✓			✓				✓		✓	✓			✓	✓	✓																			80%						15%				5%	
Thermodynamics	SESM2017	5	15	✓	✓	✓	✓				✓	✓	✓	✓	m	m	m	m	✓							✓		✓			✓	✓						✓	70%			15%	15%			✓				
Individual Project	FEEG3003	6	30	✓			✓	✓	✓	✓	✓						m	✓	✓	✓		✓			✓						✓			✓	✓			✓				90%	10%		✓				
Accounting & Finance for Engineers	MANG3049	6	15			✓	✓	✓			✓											✓		✓	✓	✓	✓											90%		10%								
Aerothermodynamics	SESA3029	6	15	✓			✓		✓			✓	m			m		m																				90%						10%					
Aircraft Structural Design	SESA3026	6	15	✓	✓	✓	✓				✓	✓	✓	✓			✓	m		✓		✓				✓				✓			✓					100%											
Automobile Systems	SESM3031	6	15	✓	✓		✓		✓		✓	m		✓	m	m	✓		✓	✓		✓						✓		✓			✓	✓			✓		80%						20%					
Audio Engineering	ISVR3060	6	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	m	✓	m	m	✓		✓	✓											m	✓	✓			m	40%			20%			40%					
Biomaterials	SESM3028	6	15	✓	✓		✓	✓			✓	m		m		m			✓	✓				✓					✓				✓	✓			✓		75%						25%					
Control and Instrumentation	SESM3030	6	15	✓	✓		✓	✓	✓	✓	✓	m	m	m	m		m	m	m	✓			✓								✓	✓	✓	✓				m	70%			10%			20%					
Engineering Design with Management	SESM3029	6	15	✓	✓	✓	✓	✓	✓		✓									m	✓		✓	✓	✓	✓	m	✓					✓				✓	m		✓						22%	78%			
Finite Element Analysis in Solid Mechanics	FEEG3001	6	15	✓	✓		✓		✓	✓	✓	✓	m	m	m	✓	✓	m					✓		✓						✓		✓					70%						30%					
Heat Transfer and Applications	SESM3032	6	15	✓	✓		✓		✓		✓	m	✓	✓		✓	✓	m	✓	✓		✓				✓		✓			✓			✓				✓	70%						30%					
Human Factors in Engineering	FEEG3004	6	15	✓	✓	✓	✓		✓		✓	m		m	✓	m	m		✓	m	✓		✓				✓		✓	✓					✓	✓	✓							100%					
Human Responses to Sound and Vibration	ISVR3061	6	15		✓	✓			✓		✓	m		m		m			✓	✓	✓								✓	✓					✓	✓	✓							100%					
Industrial Law	LAWS3001	6	15			✓			✓		✓			m															✓	✓					✓					100%									
Manufacturing and Materials	SESG3024	6	15	✓	✓	✓	✓	✓	✓	✓	✓	m	✓	✓	m	✓	m	m	✓	✓	✓	✓	m	✓	✓	m		✓	✓		✓	✓	✓	✓		✓	✓	m	75%						25%					
Marine Craft Concept Design	SESS3024	6	15	✓	✓	✓	✓	✓	✓	✓	✓	✓		m	m	✓	m	✓		✓	✓				✓	✓			✓		m			✓		✓		m		✓			100%							
Marine Engineering	SESS3025	6	15	✓	✓	✓	✓	✓	✓		✓	m	m	m	m	m	m	m	✓	m	✓	✓		✓		m		✓	✓		✓	m	✓	✓		✓			50%			20%			30%					
Marine Structures	SESS3026	6	15	✓	✓		✓	✓			✓	m	m	m	m	m	m	m	✓	m			m		m	✓						m	✓	✓					100%										
Musical Instrument Acoustics	ISVR3063	6	15	✓	✓		✓		✓			✓	m	m					✓																						70%	30%							
Noise Control Engineering	ISVR3064	6	15	✓			✓	✓				✓	✓			✓	✓	m		✓									✓	✓												✓		100%					
Operational Research	MATH3027	6	15	✓			✓				✓		✓	✓				✓																				80%						20%					
Orthopaedic Biomechanics	SESM3033	6	15	✓	✓	✓	✓	✓	✓		✓	✓	✓	m		✓	m	m	✓														✓					75%						25%					
Partial Differential Equations	MATH3024	6	10	✓			✓				✓		✓	✓				✓																				100%											
Sem in Industry Project with Reflective Eng.	SESM3034	6	45		✓	✓	✓	✓		✓	✓	✓	✓	m	m	m	m	m		✓	✓	✓	m			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	m					90%	10%						
Teaching & Comm. Ambassador Scheme	SESG3019	6	15		✓	✓					✓					✓						✓													✓								60%	25%						15%
Vehicle Powertrain Noise & Vibration	FEEG3002	6	15	✓	✓		✓	✓		✓	✓	m	✓			m													✓			m		✓			✓		80%			12%			8%					
Wing Aerodynamics	SESA3033	6	15	✓			✓		✓			✓	✓		m	m	✓	m																					90%						10%					

MODULE TITLE	CODE	Level	CATS points	KU1	KU2	KU3	IA1	IA2	IA3	PS1	GT1	US1/US1m	US2/US2m	US3/US3m	US4m	E1/E1m	E2/E2m	E3/E3m	E4	D1/D1m	D2	D3	D4/D4m	D5	D6	S1/S1m	S2/S2m	S3	S4	S5	P1/P1m	P2/P2m	P3	P4	P5	P6	P7	P8/P8m	EXAM	TEAMWORK	ESSAY	LABORATORY	REPORT	PRESENT'N	ASSESSED PROBLEMS & CASE STUDIES	PROJECT	CAA	IN-CLASS TEST	OTHER
Group Design Project	FEEG6013	7	45	✓	✓	✓	✓	✓	✓	✓	✓	m	m	m	m	m	m	m	✓	m	✓	✓	m		✓	m				m		✓		✓			m		✓		15%	10%		75%				
Active Control	ISVR6139	7	15	✓	✓			✓	✓	✓	✓	m	m	m	m	m		m																								30%	70%						
Advanced Computational Methods I	FEEG6002	7	15	✓	✓		✓	✓	✓	✓	✓	m	m	m	m	m	m	m								m					m			✓							10%			50%				40%	
Advanced Computational Methods II	FEEG6003	7	15	✓									m		m		m	m													✓												100%					
Advanced Control Design	SESG6036	7	15	✓	✓		✓	✓	✓		✓	m	m	m	m	✓	✓	m	m	✓														✓					70%						30%					
Advanced Electrical Systems	SESM6034	7	15	✓	✓		✓		✓		✓	m	✓	✓	m	m				✓																			70%						30%					
Advanced Finite Element Analysis	FEEG6010	7	15	✓			✓			✓	✓	m	m					m																					40%						60%					
Advanced Management	MANG6103	7	15		✓	✓			✓		✓															m	m													✓	100%										
Advanced Sensors and Condition Monitoring	SESG6035	7	15	✓	✓	✓	✓	✓	✓	✓	✓	m		m	m	m	m	m		m			m			m	m				m	m						m	50%	✓			50%						
Advances in Ship Resistance and Propulsion	SESS6063	7	15	✓			✓			✓	✓	m	m		m	m	m	m	✓	m								✓			m			✓		✓		✓	70%			10%			20%				
Advanced Vibration	ISVR6133	7	15	✓	✓	✓	✓		✓	✓	✓	m	m	m	m	m	m	m																m					60%			15%			25%				
Aeroacoustics	FEEG6004	7	15	✓	✓		✓					m	m	m	m	m	✓	m																					70%						30%					
Aircraft Propulsion	SESA6075	7	15	✓	✓	✓	✓	✓	✓		✓	m	m	m	m	m	m	m	✓	✓	✓			✓	✓	✓		✓			m		✓	✓					m	90%									10%	
Aircraft Structures	SESA6064	7	15	✓	✓		✓		✓		✓	m	m	m	m	m	m	m				m	m		m						m		m						90%						10%					
Applications of CFD	FEEG6005	7	15	✓			✓		✓	✓	✓	m	m		m	m		m													m							m	65%						35%					
Applied Digital Signal Processing	ISVR6140	7	15	✓	✓		✓		✓	✓	✓	m	m	✓		m	m	m		m																			70%						30%					
Architectural & Building Acoustics	FEEG6011	7	15	✓			✓	✓				✓	✓			✓	m	m											✓													50%	50%			✓				
Automotive Propulsion	SESM6037	7	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	m	m	m	m	✓		✓	✓										m		✓	✓				m	80%			20%							
Bio Nano & Modelling Aspects of Tribology	SESM6035	7	15	✓	✓	✓	✓	✓	✓	✓	✓	m	m	m	m	m	m	m	✓	m			✓	✓							m	m	✓	✓		✓		m	85%		15%								
Biological Flow	SESA6066	7	15	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓		✓	✓																					100%										
Biomedical Applic. of Signal & Image Processing	ISVR6138	7	15	✓	✓	✓	✓	✓	✓	✓	✓	✓		m	m	m	m	m	✓	m	✓		✓						✓	✓	✓		✓	✓				m	30%						70%					
Biomedical Implants and Devices	SESM6036	7	15	✓	✓		✓	✓	✓	✓	✓	m	m	m	m	m	m	m		m			m	✓	✓	✓				✓	m							✓	40%						60%					
Composites Engin. Design and Mechanics	SESG6039	7	15	✓	✓	✓	✓	✓	✓	✓	✓	m	m	m	m	m	m	m	✓	m	✓	✓	m	✓	✓	m		✓	✓		✓	m	✓	✓		✓	✓	m		✓		40%			20%	40%				
Comp. Methods in Biomed. Eng. Design	SESM6038	7	15	✓	✓	✓	✓	✓	✓	✓	✓	m	m	m	m	m	m	m	✓	m	✓		m		✓	✓		✓	✓	m	m	✓	✓		✓	✓	✓						100%					
Consultancy Skills	MANG6045	7	15		✓	✓					✓			m						m	✓	✓		✓	✓	m	m	✓	✓				✓					m		✓	100%								
Design Search and Optimisation (DSO)	FEEG6009	7	15	✓	✓	✓		✓	✓	✓	✓			m				m	✓	m	✓	✓		✓	✓											✓	m	65%						35%					
Electroacoustics	ISVR6137	7	15	✓	✓		✓			✓	✓	m	✓	✓	✓	m	m			✓	✓										m	m	✓	✓				✓	90%			10%							
Failure of Materials and Components	SESG6040	7	15	✓	✓	✓	✓		✓		✓	m		m		m	✓			✓				✓		✓			✓		m	m		✓		✓	✓	m	80%						20%					
Flow Control	SESA6067	7	15	✓	✓	✓	✓	✓			✓		m		m		m	m					m															m	100%										
Fuel Cells and Photovoltaic Systems 1	FEEG6007	7	15	✓	✓		✓				✓	m	✓	m		m	✓	✓		✓		✓			✓	✓	m	✓			✓	m	✓	✓			✓			80%						20%					
Fuel Cells and Photovoltaic Systems 2	FEEG6008	7	15	✓	✓		✓				✓	m	✓	m		m	✓	✓		✓		✓			✓	✓	m	✓			✓	m	✓	✓			✓			80%						20%					
Fundamentals of Acoustics	ISVR6136	7	15	✓			✓			✓		m								✓											✓	✓							75%			20%						5%	
Hypersonic and High Temp Gas Dynamics	SESA6074	7	15	✓	✓		✓	✓			✓	m	m		m	m	m	m		✓														✓					90%									10%	
Information Syst. Management & Strategy	MANG6247	7	15		✓	✓	✓	✓			✓											✓			✓	✓	m						✓					m	50%	✓			25%	25%					
Managing Resources & Operations	MANG6133	7	15		✓	✓			✓		✓											✓		✓	✓	✓	m						✓				✓		50%		50%								
Marine Safety and Environmental Eng.	SESS6068	7	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	m	m	m	✓	m				✓	✓	m		✓	✓	✓	m		✓	✓		✓	✓		75%	✓				25%		✓			
Marine Structures in Fluids	SESS6071	7	15	✓			✓			✓	✓	m	m	m	m	m	m	m		m								✓			m	m	✓	✓		✓		✓	70%						30%					
Microstructure and Surface Characterisation	SESG6044	7	15	✓	✓		✓		✓		✓	m		m	m	m															m	m		✓					40%			24%			36%				
Microstructural Eng. for Transport Applications	SESG6042	7	15	✓	✓		✓		✓		✓	✓		✓	✓	✓	✓	✓										✓			m	m							100%										
Numerical Methods of Acoustics	ISVR6142	7	15	✓			✓	✓			✓	✓	m		m	✓	✓	✓					✓																60%						40%					
Offshore Engineering & Analysis	SESS6070	7	15	✓	✓		✓	✓	✓		✓	m	m	m	m	m		m																			m	75%			25%							
Project Risk Management	MANG6143	7	15		✓	✓	✓	✓	✓		✓									m				✓		m	m	✓	✓	✓			✓					m		✓	100%									
Race Car Aerodynamics	SESA6072	7	15	✓	✓		✓			✓	✓	m		m	m	m	m	m													m	✓	✓	✓		✓	✓	✓	60%			40%							
Renewable Energy	SESS6067	7	15	✓	✓	✓	✓					m	m	m	m	m	m	m	✓	✓		✓				m		✓						✓		✓		m	70%			10%			20%				
Signal Processing	ISVR6130	7	15	✓			✓	✓	✓		✓	m	m	✓		m	m	m	✓	✓						✓					m		✓	✓				m	70%			30%							
Spacecraft Propulsion	SESA6071	7	15	✓	✓		✓	✓	✓	✓	✓	m	m		m	m	m	m		✓											✓	✓		✓				✓	90%									10%	
Strategic Management	MANG6130	7	15			✓	✓	✓			✓																				m	m						m	70%	✓	30%								
Surface Engineering	SESG6034	7	15	✓			✓		✓			m		m	m	m																							80%						20%					
Sustain. Energy Systems, Resource & Usage	SESM6032	7	15	✓	✓	✓	✓		✓		✓			m		m	✓		✓					✓		m		✓			m			✓				m	100%										
Thermofluid Eng. for Low Carbon Energy	SESM6040	7	15	✓	✓	✓	✓		✓			m	m	m	m	m	m	m	✓							✓		✓								m			80%	✓							20%			
Transport Economics	CENV6016	7	15																																				50%					20%	30%					
Tribological Engineering	SESM6033	7	15	✓	✓	✓	✓	✓	✓		✓	m	✓	m	m	m	✓		✓	m	✓	✓	m	✓	✓	✓	✓	✓	✓		m	m	✓	✓		✓	✓	m	80%			10%			20%				
Turbulence Physics Modelling	SESA6061	7	15	✓		✓	✓		✓		✓	m	m		m	m	m	m								m					m							m	100%										
Numerical Methods	MATH6141	7	15	✓			✓				✓		✓	✓				✓																					60%						30%			10%		

MEng and BEng Part 1

The first year provides a background in engineering science, emphasising mechanical engineering aspects. The induction programme in the first week provides the opportunity to get to know fellow students and gain hands-on experience.

All modules below are at level 4 and are core. They total 60 ECTS (120 CATS). No optional modules will be undertaken in Part 1. All modules in Part I are taught over two semesters with formal examinations at the end of semester 2. Feedback on progress is provided throughout the year in many ways including via laboratory work, example sheets, tests and coursework. All modules in Part 1 are core, i.e. all must be passed at a minimum of score of 40.

Over both semesters
MATH1054 Mathematics for Engineering and the Environment
FEEG1004 Electrical and Electronic Systems
FEEG1003 Thermofluids
FEEG1002 Mechanics, Structures and Materials
FEEG1001 Design and Computing
SESM1015 Professional Engineer and Functional Materials

MEng and BEng Part II

The second year covers the main mechanical engineering subjects with modules tailored to the mechanical engineering discipline. It includes a total of 60 ECTS (120 CATS) across two semesters. No optional modules will be undertaken in Part 2. Feedback on progress is provided throughout the year in many ways including via laboratory work, example sheets, tests and coursework.

Modules at level 5 totalling 120 credits; all modules compulsory

Module Code	Module Name	Semester	CATS Credit Points
FEEG2001	Systems Design and Computing	Full year	15
FEEG2002	Mechanics Machines and Vibration	2	15
FEEG2003	Fluid Mechanics	2	15
FEEG2004	Electronics Drives and Control	1	15
FEEG2005	Materials and Structures	2	15

FEEG2006	Engineering Management and Law	Full year	15
MATH2048	Mathematics for Engineering and the Environment	1	15
SESM2017	Thermodynamics	1	15

At the end of Part II students progressing to Pt 3 MEng will select themes each with a distinct programme in Parts 3 and 4 (see subsequent section). Students progressing to Pt 3 BEng will not select themes.

Part III BEng

Part III (Total 120 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting
from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Part 3 contains the following compulsory modules.

Module Code	Module Name	Semester	CATS Credit Points
FEEG3003	Individual Project	Full year	30
SESM3029	Engineering Design with Management	2	15
SESG3024	Manufacturing and Materials	1	15
SESM3032	Heat Transfer	2	15

The individual project is a core module, i.e. no compensation is possible when the pass mark is not achieved.

Part III and IV MEng

Part III and IV contain compulsory and a broad range of optional modules. For all MEng students (all themes) the following modules are compulsory:

Module Code	Module Name	Semester	Part	CATS Credit Points
FEEG3003	Individual Project	Full year	3	30
SESM3029	Engineering Design with Management	2	3 or 4	15
SESG3024	Manufacturing and Materials	1	3 or 4	15
FEEG6013	Group Design Project	Full year	4	45
MANG6318	Advanced Management	2	4	15

There are two exceptions to the above table. In the MEng Mechanical Engineering with Engineering Management the module Advanced Management is not offered, and is replaced by a selection of other level 7 management modules. In the Semester in Industry theme, instead of the Individual Project module, the students take a Project in Industry module (45 CATS) which includes a report and a presentation.

The individual project and the group design project are core modules, i.e. no compensation is possible when the pass mark is not achieved. In addition, the theme that

you have chosen will contain compulsory and theme specialist modules. You will select optional modules to reach a total of:
Part III: total 60 ECT (120 CATS) credit points.
Part IV: total 75 ECT (150 CATS) credit points.

Part III/IV Specialist MEng Themes

Acoustical Engineering	Interdisciplinary
Advanced Materials	Mechatronics
Aerospace	Naval Engineering
Automotive	Semester in Industry
Biomedical Engineering	Study Abroad (including ESTACA, Linkoping)
Computational Engineering and Design	Sustainable Energy Systems
Engineering Management	

Advanced Materials Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Aerospace Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Automotive Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting
from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Biomedical Engineering Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.

To find links to broad generic descriptions of the programmes and modules follow links to your programme starting
from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Engineering Management Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Interdisciplinary Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Mechatronics Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Naval Engineering Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Semester in Industry Theme (available by application only)

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Study Abroad (ESTACA)

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.

To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Study Abroad (Linkoping)

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Study Abroad (Pennsylvania State)

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Sustainable Energy Systems Theme

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Acoustical Engineering Theme (entry to Part 3 available from AY2016-17)

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Computational Engineering and Design Theme (entry to Part 3 available from AY2016-17)

Part III (Total 120 CATS credit points, including options)
Part IV (Total 150 CATS credit points, including options)
The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.
To find links to broad generic descriptions of the programmes and modules follow links to your programme starting from http://www.southampton.ac.uk/engineering/undergraduate/index.page.

Appendix 2 Programme Content of Parts 3 and 4

The below contains the full programme for all MEng themes and the BEng programme including all optional and compulsory modules.

To view the programme content information in a more user friendly format students and staff are referred to the 'online programme catalogue' which allows viewing of full content for each theme for each year and contains hyperlinks to online module specifications.

BEng Mechanical Engineering

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESG3024	Manufacturing and Materials	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
SESM3032	Heat Transfer and Applications	15	C	2	6
	total:	75			

Pt: 3 Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3031	Automobile Systems	15	O	1	6
SESM3033	Orthopaedic Biomechanics	15	O	1	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM3030	Control and Instrumentation	15	O	1	6
FEEG3004	Human Factors in Engineering	15	O	1	6
LANGxxx	Language	15	O	1/2	6
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	O	2	6
MATH3083	Advanced Partial Differential Equations	15	O	1	6
SESM3028	Biomaterials	15	O	2	6
ISVR6136	Fundamentals of Acoustics	15	O	1	7

MEng Mechanical Engineering with Aerospace

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3029	Engineering Design with Management	15	C	2	6
SESA3026	Aircraft Structural Design	15	C	2	6
SESA3029	Aerothermodynamics	15	C	1	6
SESG3024	Manufacturing and Materials	15	C	1	6
		total: 90			

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3030	Control and Instrumentation	15	O	1	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM3031	Automobile Systems	15	O	1	6
SESM3032	Heat Transfer and Applications	15	O	2	6
FEEG3004	Human Factors in Engineering	15	O	1	6
LANGxxx	Language	15	O	2	6
SESA3033	Wing Aerodynamics	15	O	2	6

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
FEEG6005	Applications of CFD	15	C	1	7
SESG6042	Microstructural Eng for Transport Applications	15	C	1	7
SESA6075	Aircraft Propulsion	15	C	1	7
MANG6318	Advanced Management	15	C	2	7
		total: 105			

Key Pt: 4 Modules (choose 30 or 45 CATS of specialist modules)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESA6074	Hypersonic & High Temp Gas Dynamics	15	Spec	2	7
SESG6040	Failure of Materials and Components	15	Spec	2	7
SESG6039	Composite Engineering Design and Mechanics	15	Spec	2	7
FEEG6009	Design Search and Optimisation	15	Spec	2	7
SESA6061	Turbulence: Physics & Modelling	15	Spec	1	7
SESA6064	Aircraft Structures	15	Spec	2	7
FEEG6004	(Introduction to) Aeroacoustics	15	O	2	7
SESA6067	Flow Control	15	O	1	7

Exceptions: cannot take Automotive propulsion

MEng Mechanical Engineering with Automotive

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3031	Automobile Systems	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	C	2	6
SESG3024	Manufacturing and Materials	15	C	1	6
SESM3032	Heat Transfer and Applications	15	C	2	6
		total: 105			

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
FEEG3004	Human Factors in Engineering	15	O	1	6
SESM3033	Orthopaedic Biomechanics	15	O	1	6
LANGxxx	Language	15	O	1/2	6
SESM3028	Biomaterials	15	O	2	6

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
SESM6037	Automotive Propulsion	15	C	2	7
SESM6034	Advanced Electrical Systems	15	C	2	7
MANG6318	Advanced Management	15	C	2	7
		total: 90			

Pt: 4 Key modules (choose 15 or 30 CATS from the specialist modules, choose at least 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6033	Tribological Engineering with Engine Tribology	15	Spec	1	7
SESA6072	Race Car Aerodynamics	15	Spec	1	7
SESG6042	Microstructural Eng for Transport Applications^	15	Spec	1	7
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM6040	Thermofluid Engineering for Low-Carbon Energy^	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7

MEng Mechanical Engineering with Biomedical Engineering

Pt: 3 Core/Compulsory modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3029	Engineering Design with Management	15	C	2	6
SESM3033	Orthopaedic Biomechanics	15	C	1	6
SESG3024	Manufacturing and Materials	15	C	1	6
SESM3028	Biomaterials	15	C	2	6
	total:	90			

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3004	Human Factors in Engineering	15	O	1	6
SESM3030	Control and Instrumentation	15	O	1	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM3031	Automobile Systems	15	O	1	6
SESM3032	Heat Transfer and Applications	15	O	2	6
LANGxxx	Language	15	O	1/2	6

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
SESM6036	Biomedical Implants and Devices	15	C	1	7
SESM6038	Computational Methods in Biomedical Engineering Design	15	C	2	7
MANG6318	Advanced Management	15	C	2	7
	total:	90			

Key Pt 4 modules (choose 15 or 30 credits of specialist modules; choose at least 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6035	Bio, Nano and Modelling Aspects of Tribology	15	Spec	2	7
SESA6066	Biological Flow	15	Spec	2	7
ISVR6138	Biomedical Apps. Signal and Image Processing	15	Spec	2	7
FEEG3004	Human Factors in Engineering	15	Spec	1	6
SESM6040	Thermofluid Engineering for Low-carbon Energy^	15	O	1	7
SESG6042	Microstructural Eng for Transport Applications^	15	O	1	7
SESG6040	Failure of Materials and Components	15	O	2	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7

MEng Mechanical Engineering with Advanced Materials

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3032	Heat Transfer and Applications	15	C	2	6
SESG3024	Manufacturing and Materials	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
SESM3028	Biomaterials	15	C	2	6
	total:	90			

Pt:3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3031	Automobile Systems	15	O	1	6
SESM3033	Orthopaedic Biomechanics	15	O	1	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESA3026	Aircraft Structural Design	15	O	2	6
SESM3030	Control and Instrumentation	15	O	1	6
FEEG3004	Human Factors in Engineering	15	O	1	6
LANGxxx	Language	15	O	1/2	6

Pt:4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
MANG6318	Advanced Management	15	C	2	7
	Total	60			

Key Pt 4 modules (choose 45 or 60 CATS specialist modules; choose at least 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESG6042	Microstructural Eng for Transport Applications^	15	Spec	1	7
SESG6040	Failure of Materials and Components	15	Spec	2	
SESG6039	Composites Engineering Design and Mechanics	15	Spec	2	7
SESG6044	Microstructure and Surface Characterisation	15	Spec	1	7
SESG6034	Surface Engineering	15	Spec	1	7
SESA6075	Aircraft Propulsion	15	O	1	7
SESA6064	Aircraft Structures	15	O	2	7
SESM6040	Thermofluid Engineering for Low-Carbon Energy^	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7

MEng Mechanical Engineering with Sustainable Energy Systems

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESG3024	Manufacturing and Materials	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
SESM3032	Heat Transfer and Applications	15	C	2	6
SESM3030	Control and Instrumentation	15	C	1	6
		total: 90			

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM3031	Automobile Systems	15	O	1	6
LANGxxx	Language	15	O	1/2	6

Pt:4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
MANG6318	Advanced Management	15	C	2	7
		total: 60			

Key Pt 4 modules (choose 75 CATS of specialist modules, choose at least 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6034	Advanced Electrical Systems	15	Spec	2	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	Spec	1	7
FEEG6007	Fuel Cells and Photovoltaic Systems I	15	Spec	1	7
FEEG6008	Fuel Cells and Photovoltaic Systems II	15	Spec	2	7
SESS6067	Renewable Energy from Environmental Flows^	15	Spec	2	7
CENV6141	Bioenergy	15	Spec	2	7
SESM6040	Thermofluid Engineering for Low-Carbon Energy^	15	Spec	1	7
SESM6037	Automotive Propulsion	15	Spec	2	7
SESG6042	Microstructural Eng for Transport Applications^	15	O	1	7

MEng Mechanical Engineering with Mechatronics

Pt:3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3030	Control and Instrumentation	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
SESG3024	Manufacturing and Materials	15	C	1	6
		total: 75			

Pt: 3 Specialist and Main Optional Modules (choose at least 15 CATS from the specialist modules)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3001	Finite Element Analysis in Solid Mechanics	15	Spec	1	6
ELEC3012	Robotic Systems	15	Spec	tbc	6
SESM3032	Heat Transfer and Applications	15	Spec	2	6
FEEG3004	Human Factors in Engineering	15	O	1	6
SESM3031	Automobile Systems	15	O	1	6
SESM3033	Orthopaedic Biomechanics	15	O	1	6
LANGxxxx	Language	15	O	1/2	6

Key Pt 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
SESM6037	Automotive Propulsion	15	C	2	7
SESG6035	Advanced Sensors and Condition Monitoring	15	C	1	7
SESM6034	Advanced Electrical systems	15	C	2	7
MANG6318	Advanced Management	15	C	2	7
		total: 105			

Key Pt 4 modules (choose at least 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
ELEC3201	Robotic Systems	15	O	tbc	7
FEEG6007	Fuel cells and Photovoltaic Systems I	15	O	1	7
ISVR6138	Biomedical Apps. Signal Image Proc.	15	O	2	7
SESA6075	Aircraft Propulsion	15	O	2	7
SESM6040	Thermofluid Engineering for Low-Carbon Energy^	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7
SESG6042	Microstructural Eng for Transport Applications^	15	O	1	7

MEng Mechanical Engineering - Interdisciplinary

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3029	Engineering Design with Management	15	C	2	6
SESG3024	Manufacturing and Materials	15	C	1	6
		total: 60			

Pt: 3 Choose 30 CATS 'Interdisciplinary Modules' from

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
LAWS3130	Industrial Law	15	Interdis	1	6
SESM3033	Orthopaedic Biomechanics	15	Interdis	1	6
MANG3049	Accounting & Finance for Engineers	15	Interdis	1	6
LANGxxxx	Language	15	Interdis	1/2	6
FEEG3004	Human Factors in Engineering	15	Interdis	1	6

Pt: 3 Choose 15 or 30 CATS 'main mechanical engineering modules' from

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3032	Heat Transfer and Applications	15	O	2	6
SESM3030	Control and Instrumentation	15	O	1	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6

Pt:4 Core/Compulsory modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
MANG6318	Advanced Management	15	C	2	7
		total: 60			

Pt 4: Choose 45 CATS interdisciplinary modules (max 30 CATS level 6 in total in Pt 4, max 30 CATS from *)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6038	Computational Methods in Biomedical Engineering Design	15	Interdisc	2	7
SESM6035	Bio, Nano and Modelling Aspects of Tribology	15	Interdisc	2	7
SESG3019	Teaching and Communication & the Undergrad Ambassador Scheme	15	Interdisc	1	6 *
MANG6247	Information Systems Management and Strategy	15	Interdisc	tbc	7 *
SESM6032	Sustainable Energy Systems, Resources and Usage	15	Interdisc	1	7
SESM3033	Orthopaedic Biomechanics	15	Interdisc	1	6
LANGxxxx	Language	15	Interdisc	1+2	6 *
FEEG3004	Human Factors in Engineering	15	Interdisc	1	6
SESM6036	Biomedical Implants and Devices	15	Interdisc	1	7
ISVR6138	Biomedical Apps. Sig. Image Proc.	15	Interdisc	2	7

Pt 4: Choose 30 CATS 'main Mechanical Engineering modules'

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6037	Automotive Propulsion	15	O	2	7
SESG6035	Advanced Sensors and Condition Monitoring	15	O	1	7
SESM6034	Advanced Electrical systems	15	O	2	7
SESG6040	Failure of Materials and Components	15	O	2	7
SESG6039	Composite Engineering Design and Mechanics	15	O	2	7
SESG6044	Microstructure and Surface Characterisation	15	O	1+2	7
SESG6034	Surface Engineering	15	O	1	7
FEEG6009	Design Search and Optimisation	15	O	2	7
FEEG3001	Finite Element Analysis in Solid Mechanic	15	O	1	6
SESM3032	Heat Transfer and Applications	15	O	2	6
SESM3030	Control and Instrumentation	15	O	1	6

Pt 4: Choose 15 CATS from these modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6040	Thermo-fluid engineering for low-carbon energy^	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7
SESG6042	Microstr Eng for Transport Appl^	15	O	1	7

MEng Mechanical Engineering with Engineering Management

Pt:3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESG3024	Manufacturing and Materials	15	C	1	6
MANG3049	Accounting & Finance for Engineers	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
		total: 75			

Pt: 3 Main Optional Modules (max of 15 CATS from modules marked *)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
MATH3027	Operational Research	15	O	1	6
SESM3030	Control and Instrumentation	15	O	1	6
SESM3032	Heat Transfer and Applications	15	O	2	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
LANGxxxx	Language*	15	O	1/2	6 *
FEEG3004	Human Factors in Engineering*	15	O	1	6 *
SESM3031	Automobile Systems	15	O	1	6

Pt:4 Core Module

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7

Key Pt: 4 modules: choose 45 CATS of Management modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
MANG6130	Strategic Management	7.5	Spec	1	7
MANG6119	Introduction to Knowledge Information Systems Management	7.5	Spec	1	7
MANG6247	Information Systems Management and Strategy	15	Spec	1	7
MANG6045	Consultancy Skills	7.5	Spec	1	7
MANG6143	Project Risk Management	15	Spec	2	7
MANG6273	Managing within a Global Context	15	Spec	1	7

Pt 4: Choose 45 CATS 'main Mechanical Engineering modules'

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6037	Automotive Propulsion	15	O	2	7
SESG6035	Advanced Sensors and Condition Monitoring	15	O	1	7
SESM6034	Advanced Electrical systems	15	O	2	7
SESG6040	Failure of materials and components	15	O	2	7
SESG6039	Composite Eng Design and Mechanics	15	O	2	7
SESG6044	Microstructure and Surface Characterisation	15	O	1+2	7
SESG6034	Surface Engineering	15	O	1	7
SESG6036	Advanced Control Design	15	O	2	7

FEEG6009	Design Search and Optimisation	15	O	2	7
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM3032	Heat Transfer and Applications	15	O	2	7
SESM3030	Control and Instrumentation	15	O	1	7

Pt 4: Choose 15 CATS from these modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM6040	Thermo-fluid Engineering for Low-Carbon Energy	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage	15	O	1	7
SESG6042	Microstructural Eng for Transport Appl	15	O	1	7

MEng Mechanical Engineering with Naval Engineering

Pt: 3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESS6065	Fundamentals of Ship Science	15	C	1	7
SESM3029	Engineering Design with Management	15	C	2	6
SESS3024	Marine Craft Concept Design	15	C	1	6
SESS3026	Marine Structures	15	C	2	6
SESM3030	Control and Instrumentation	15	C	1	6

total: 105

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	O	2	6
SESM3032	Heat Transfer and Applications	15	O	2	6

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESS3025	Marine Engineering	15	C	1	6
FEEG6013	Group Design Project	45	Core	1+2	7
SESM6034	Advanced Electrical Systems	15	C	2	7
SESG6035	Advanced Sensors and Condition Monitoring	15	C	1	7
SESG3024	Manufacturing and Materials	15	C	1	6
MANG6318	Advanced Management	15	C	2	7

total: 120

Key Pt 4 modules: Choose 15 or 30 CATS of specialist modules; choose at least 15 CATS from modules marked ^; no further level 6 modules can be chosen

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESS6063	Advances in Ship Resistance and Propulsion	15	Spec	1	7
SESS6068	Marine Safety and Environmental Engineering^	15	Spec	2	7
SESG6042	Microstr Engineering for Transport Applications^	15	Spec	1	7
SESG6040	Failure of Materials and Components	15	Spec	2	7
SESS6070	Offshore Engineering and Analysis	15	Spec	2	7
SESS6071	Marine Structures in Fluids	15	O	2	7
SESM6040	Thermo-fluid Engineering for Low-Carbon Energy^	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7

MEng Mechanical Engineering with Semester in Industry

Pt 3: Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3034	Semester in Industry Project with Reflective Engineer	45	Core	1	6
SESG3024	Manufacturing and Materials (distance learning)	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
SESM3032	Heat Transfer and Applications	15	C	2	6
		total: 90			

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3004	Human Factors in Engineering	15	O	1	6
SESM3028	Biomaterials	15	O	2	6
LANGxxxx	Language	15	O	1/2	6
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	O	2	6

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1	7
MANG6318	Advanced Management	15	C	2	7
		total: 60			

Key Pt 4 optional modules, max 30 CATS of level 6 modules; choose at least 15 CATS from modules marked ^

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESA6075	Aircraft Propulsion	15	O	2	7
FEEG6002	Advanced Computational Methods I	15	O	1	7
SESG6039	Composites Engineering Design and Mechanics	15	O	2	7
SESG6042	Microstr Engineering for Transport Applications^	15	O	1	7
SESG6040	Failure of Materials and Components	15	O	2	7
FEEG6009	Design Search and Optimisation	15	O	2	7
SESM6037	Automotive Propulsion	15	O	2	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7
SESM6040	Thermofluid Engineering for Low-carbon Energy^	15	O	1	7

MEng Mechanical Engineering with Study Abroad A: Abroad in Semester 1

Pt:3 Core/Compulsory Module

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
XXXXxxxx	Study Abroad modules	60	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
SESM3032	Heat Transfer and Applications	15	C	2	6
FEEG3003	Individual Project	30	Core	2	6
		total: 120			

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
SESG3024	Manufacturing and Materials	15	C	1	6
MANG6318	Advanced Management	15	C	2	7
		total: 75			

Key Pt: 4 modules (choose at least 60 CATS from modules marked *, choose 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6002	Advanced Computational Methods I *	15	O	1	7 *
SESG6039	Composites Engineering Design and Mechanics *	15	O	2	7 *
SESG6042	Microstructural Engineering for Transport Applications ^	15	O	1	7 *
SESG6040	Failure of Materials and Components *	15	O	2	7 *
SESM6034	Advanced Electrical Systems *	15	O	2	7 *
SESG6035	Advanced Sensors and Condition *	15	O	1	7 *
SESM6037	Automotive Propulsion *	15	O	2	7 *
FEEG6009	Design Search and Optimisation *	15	O	2	7 *
FEEG3001	Finite Element Analysis in Solid Mechanics *	15	O	1	6 *
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7
SESM6040	Thermofluid Engineering for Low-Carbon Energy^	15	O	1	7

MEng Mechanical Engineering with Study Abroad A: Abroad in Semester 2

Pt:3 Core/Compulsory

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
XXXXxxxx	Study abroad modules	60	Core	2	6
SESG3024	Manufacturing and Materials	15	C	1	6
FEEG3003	Individual project	30	Core	1+2	6
		total: 105			

Pt: 3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3031	Automobile Systems	15	O	1	6
SESM3030	Control and Instrumentation	15	O	1	6
SESM3033	Orthopaedic Biomechanics	15	O	1	6
LANGxxxx	Language	15	O	1+2	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6

Pt:4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
SESM3029	Engineering Design with Management	15	C	2	6
MANG6318	Advanced Management	15	C	2	7
		total: 75			

Key Pt 4 modules (choose at least 60 CATS from modules marked *; choose 15 CATS from modules marked ^)

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6002	Advanced Computational Methods I *	15	O	1	7 *
SESG6039	Composites Engineering Design and Mechanics *	15	O	2	7 *
SESG6042	Microstructural Engineering for Transport Applications^	15	O	1	7 *
SESG6040	Failure of Materials and Components *	15	O	2	7 *
SESM6032	Sustainable Energy Systems, Resources and Usage *	15	O	1	7 *
SESM6034	Advanced Electrical Systems *	15	O	2	7 *
SESG6035	Advanced Sensors and Condition Monitoring *	15	O	1	7 *
SESM6037	Automotive Propulsion	15	O	2	7 *
FEEG6009	Design Search and Optimisation *	15	O	2	7 *
SEESA6075	Aircraft Propulsion *	15	O	1	7 *
SESM3030	Control and Instrumentation *	15	O	1	6
SESM3032	Heat Transfer and Applications *	15	O	2	6
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7
SESM6040	Thermofluid Engineering for Low-carbon Energy^	15	O	1+2	7

MEng Mechanical Engineering with Acoustical Engineering

Pt:3 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESG3024	Manufacturing and Materials	15	C	1	6
SESM3029	Engineering Design with Management	15	C	2	6
ISVR6136	Fundamentals of Acoustics	15	C	1	7
ISVR3064	Noise Control Engineering	15	C	1	6
		total: 90			

Pt:3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3032	Heat Transfer and Applications	15	O	2	6
SESA3026	Aircraft Structural Design	15	O	2	6
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	O	2	6
LANGxxxx	Language	15	O	1/2	6
SESM3028	Biomaterials	15	O	2	6

Pt: 4 Core/Compulsory Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
MANG6318	Advanced Management	15	C	2	7
		total: 60			

Key Pt 4 modules Choose 60 or 75 CATS of specialist modules; max 30 CATS level 6 in total in Pt 4; choose at least 15 CATS from modules marked ^

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
ISVR6137	Electroacoustics	15	Spec	1	7 *
FEEG6004	Aeroacoustics	15	Spec	2	7 *
ISVR6140	Applied Digital Signal Processing	15	Spec	2	7 *
ISVR6142	Numerical Methods for Acoustics	15	Spec	1	7 *
FEEG6011	Architectural and Building Acoustics	15	Spec	2	7 *
ISVR6139	Active Control	15	Spec	2	7 *
ISVR6133	Advanced Vibration	15	Spec	2	7 *
ISVR3063	Musical Instrument Acoustics	15	Spec	1	7 *
ISVR3060	Audio Engineering	15	Spec	2	7 *
ISVR3061	Human Responses to Sound and Vibration	15	Spec	2	7 *
SESA6075	Aircraft Propulsion	15	O	1	6
FEEG3001	Finite Element Analysis in Solid Mechanics	15	O	1	6
SESG6042	Microstructural Engineering for Transport Applications^	15	O	1	7
SESM6040	Thermo-fluid Engineering for Low-carbon Energy^	15	O	1	7

Exceptions: Cannot take Advanced Control Design or Advanced Sensors and Condition Monitoring; Cannot take Automotive Propulsion if Aircraft Propulsion is chosen.

MEng Mechanical Engineering with Computational Engineering and Design

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG3003	Individual Project	30	Core	1+2	6
SESM3029	Engineering Design with management	15	C	2	6
FEEG3001	Finite Element Analysis in Solid Mechs.	15	C	1	6
SESM3032	Heat Transfer and Applications	15	C	2	6
SESG3024	Manufacturing and Materials	15	C	1	6

total: 90

Pt:3 Main Optional Modules

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
SESM3033	Orthopaedic Biomechanics	15	O	1	6
SESA3026	Aircraft Structural Design	15	O	2	6
LANGxxxx	Language	15	O	1+2	6

Pt:4 Core/Compulsory Module

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
FEEG6013	Group Design Project	45	Core	1+2	7
FEEG6009	Design Search and Optimisation	15	C	2	7
FEEG6002	Adv Computational Methods I	15	C	2	7
MANG6318	Advanced Management	15	C	2	7

Total 90

Key Pt 4 modules Choose 30 or 45 CATS of specialist modules; max 30 CATS level 6 in total in Pt 4; choose at least 15 CATS from modules marked ^.

Module Code	Module Name	Credit Points	Choice Type	Semester	Level
MATH6141	Numerical Methods	15	Spec	1	7
SESM6038	Computational Methods in Biomedical Engineering Design	15	Spec	2	7
FEEG6005	Applications of CFD	15	Spec	1	7
SESM6035	Bio, Nano and Modelling Aspects of Tribology	15	Spec	2	7
FEEG6010	Advanced FEA	15	Spec	2	7
SESA6075	Aircraft Propulsion	15	O	1	7
SESA3026	Aircraft Structural Design	15	O	2	7
SESG6042	Microstr Engineering for Transport Applications^	15	O	1	7
SESM6032	Sustainable Energy Systems, Resources and Usage^	15	O	1	7
SESM6040	Thermo-fluid engineering for low-carbon energy^	15	O	1	7

Optional and compulsory modules for all themes

The following modules are optional for all MEng/BEng Mechanical Engineering programmes/themes in Pt 3, except for those programmes/themes in which the total credit (120 CATS) is taken through compulsory and core modules.

SESM3031	Automobile Systems	15	6	Sem 1
SESM3033	Orthopaedic Biomechanics	15	6	Sem 1
FEEG3001	Finite Element Analysis in Solid Mechs.	15	6	Sem 1
SESM3030	Control and Instrumentation	15	6	Sem 1
FEEG3004	Human Factors in Engineering	15	6	Sem 1
LANGxxxx	Language	15	6	Sem 1/2
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	6	Sem 2
SESM3028	Biomaterials	15	6	Sem 2
SESM3032	Heat Transfer and Applications	15	6	Sem 2
SESG3024	Manufacturing and Materials	15	6	Sem 1
ISVR6136	Fundamentals of Acoustics	15	7	Sem 1
MATH3081	Operational Research	15	6	
MATH3082	Optimization	15	6	
MATH3083	Adv Partial differential equations	15	6	

The following modules are compulsory for all MEng Mechanical Engineering programmes/themes in Pt 4. This is in addition to the modules listed in the particular programmes. There is one exception: in the MEng Mechanical Engineering with Engineering Management the module Advanced Management is not offered, and is replaced by a selection of other management modules.

FEEG6013	Group Design Project	45	Core	1+2	7
MANG6318	Advanced Management	15	C	2	7

The following modules are optional for all MEng Mechanical Engineering Pt 4 students that have not reached the 150 CATS required through the core and compulsory requirements for their theme. A maximum of 30 CATS of level 6 modules can be chosen in Pt 4.

FEEG6002	Adv Computational Methods I	15	7	1
SESG6039	Composite Engineering Design and Mechanics	15	7	2
SESG6042	Microstr Engineering for Transport Applications	15	7	1
SESG6040	Failure of materials and components	15	7	2
SESM6032	Sustainable Energy Systems, Resources and Usage	15	7	1
SESM6034	Advanced Electrical Systems	15	7	1
SESG6035	Advanced Sensors and Condition Monitoring	15	7	2
FEEG6010	Advanced Finite Element Analysis	15	7	2
SESM6037	Automotive Propulsion	15	7	2

SESM6033	Tribological Engineering	15	7	1
SESG6044	Microstructural and Surface Characterisation	15	7	1+2
SESM6035	Bio, Nano and Modelling Aspects of Tribology	15	7	2
FEEG6009	Design Search and Optimisation	15	7	2
SESG6034	Surface Engineering	15	7	1
SESM3028	Biomaterials	15	6	2
FEEG6005	Applications of CFD	15	7	
FEEG6009	Design Search and Optimisation	15	7	
SESM6038	Computational methods in biomedical engineering design	15	7	2
SESM6036	Biomedical Implants and Devices	15	7	1
SESM3032	Heat Transfer and Applications	15	6	2
SESM3031	Automobile Systems	15	6	1
SESM3033	Orthopaedic Biomechanics	15	6	1
FEEG3001	Finite Element Analysis in Solid Mechanics	15	6	1
SESM3030	Control and Instrumentation	15	6	1
FEEG3004	Human Factors in Engineering	15	6	2
FEEG3002	Vehicle Powertrain, Noise and Vibration	15	6	1
LANGxxxx	Language	15	6	1/2
MATH6141	Numerical Methods	15	7	1
ISVR6136	Fundamentals of Acoustics	15	7	1
ISVR3064	Noise Control Engineering	15	6	1
LAWS3130	Industrial Law	15	6	1
SESG6036	Advanced Control Design	15	7	2
SESM6040	Thermofluid engineering for Low-Carbon Energy	15	7	
MATH3081	Operational Research	15	6	
MATH3082	Optimization	15	6	
MATH3083	Advanced Partial Differential Equations	15	6	

Revision History
October 2004 (M. Hill)
October 2005 (M. Hill)
September 2006 (S.M. Sharkh)
September 2007 (S.M. Sharkh)
April 2008 (S.M. Sharkh)
February 2012 (A Barney)
July 2012 (B.Leigh)
May 2013 (M.J. Starink) (AY2013-14 specifications)
June 2013 (M.J. Starink) (AY2014-15 specifications, incl a complete rewrite of programme content)
23 Nov 2013 (M.J. Starink)_CQA
18 Feb & 7 May 2014 (M.J. Starink)
Update to Programme Overview (CMA Changes) – September 2015

Appendix 3:

Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme typically also have to pay for the items listed in the table below.

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at www.calendar.soton.ac.uk.

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Approved Calculators		Students will require a scientific calculator. This will need to be purchased by the student (FEEG2003). Candidates may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University approved models are Casio FX-570 and Casio FX-85GT Plus. These may be purchased from any source and no longer need to carry the University logo.
Stationery		You will be expected to provide your own day-to-day stationery items, e.g. pens, pencils, notebooks, etc.). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.
Textbooks		For FEEG1002 Mechanics, Structures and Materials it may be useful to purchase Materials Science and Engineering: An Introduction by W.D. Callister, cost circa £60, but a large number are available in the library. For FEEG2001 System Design and Computing it may be useful to purchase the Arduino Cookbook by M. Margolis, cost circa £20

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
		For FEEG2003 Fluidic Mechanics it will be useful, but not necessary, to purchase the core text book Fluid Mechanics. 7th edition, by F.M. White, 2011. McGraw-Hill. These currently (17th Sept 2015) retail for £45.89 from www.amazon.co.uk. This will need to be purchased by the student although there are a limited number of these in the Hartley library. Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source. Some modules suggest reading texts as **optional** background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module.

Equipment and Materials	Design equipment and materials:	Standard construction / modelling materials will be provided where appropriate, unless otherwise specified in a module profile. For customisation of designs / models calling for material other than standard construction/ modelling materials, students will bear the costs of such alternatives.
	Excavation equipment and materials:	
	Field Equipment and Materials:	Where appropriate a number of essential items will be provided to you e.g.: field notebook(s); compass-clinometer; geological hammer; steel tape measure; map case; pocket lens (x 10); safety helmet; safety goggles; bottle of dilute hydrochloric acid. If items provided are lost replacements can be purchased from: However, you will need provide yourselves with a ruler; a pair of compasses; set squares; protractor; pencils (including coloured); eraser; calculator, penknife. These can be purchased from any source.
	Laboratory Equipment and Materials:	Students are expected to purchase a laboratory note book in which to record laboratory observations which form part of the assessment. These can be purchased for £1.20 (thin softback) or £4.75 (thick hardback), depending on student choice.(FEEG2004) A range of standard construction materials are provided to support the design projects within this module, however, students may wish to customise their designs and choose alternative materials at their own cost. (FEEG2001) Students are required to source and purchase their own batteries for the Odometry Exercise in week 6 and should be prepared to spend up to £50 per group of their own money. Receipts should be retained as expenditure may be subject to auditing (FEEG2001) Students should be prepared to spend up to £100 per group of their own money in relation to the purchase of components for the Semester 2 Group Design Project. Receipts should be retained as expenditure may be subject

		to auditing (FEEG2001)
	Photography:	
	Recording Equipment:	
IT	Computer Discs	
	Software Licenses	
	Hardware	
Clothing	Lab Coats	
	Protective Clothing: Hard hat; safety boots; hi-viz vest/jackets;	
	Fieldcourse clothing:	You will need to wear suitable clothing when attending fieldcourses, e.g. waterproofs, walking boots. You can purchase these from any source.
	Wet Suits?	
	Uniforms?	
Printing and Photocopying Costs		Students are responsible for the printing of their poster for the Poster Presentation Day. This may range from £5-£20. Students are expected to cover the costs associated with the printing and binding of reports and the printing of drawings and graphic presentations. These are typically expected to be of the order of £100 per group, also depending on the quality of printing and binding chosen. Note that funds from the project's budget cannot be used for this purpose. (FEEG6013 MEng Only) In some cases, coursework and/or projects may be submitted electronically. Where it is not possible to submit electronically students will be liable for printing costs, which are detailed in the individual Module Profile and can be found in Appendix 2. The costs associated with the printing and binding of reports are to be covered by each student group. (FEEG2006) In addition to the experimental, computational and workshop resources available, reasonable expenses for travel and materials of up to £100 may be reclaimed through the Faculty Student Office.(FEEG3003 BEng)

Optional Visits (e.g. museums, galleries)		Some modules may include additional optional visits. You will normally be expected to cover the cost of travel and admission, unless otherwise specified in the module profile.


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