Programme Specification

MSc Advanced Mechanical Engineering Science (2020-21)

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
Mode of Study	Full-time
Duration in years	1
Accreditation details	Institution of Mechanical Engineers (IMechE)
Final award	Master of Science (MSc)
Name of Award	MSc Advanced Mechanical Engineering Science Computational Engineering and Design Engineering Materials Mechatronics Propulsion and Engine Systems Engineering
Interim Exit awards	Postgraduate Certificate Postgraduate Diploma
FHEQ level of final award	Level 7
UCAS code	
Programme Code	3882
QAA Subject Benchmark or other external reference	Engineering 2015
Programme Lead	John Atkinson

Programme Overview

Brief outline of the programme

The programme provides an academically challenging exposure to modern issues in Advanced Mechanical Engineering Science (AMES). It is suitable for engineering, mathematics or physical sciences graduates who wish to specialise in advanced mechanical engineering science or to support continued professional development. It offers a sound understanding of the relevant fundamental science, methods, analysis and engineering applications.

Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles

Learning and teaching
The different subject matter of the modules lends itself to different teaching and learning techniques but these include lectures, tutorials, individual and group planning exercises and practical exercises. You are encouraged throughout to contribute your own professional experiences and thoughts to the learning of the whole class through a free exchange of ideas. One-to-one tutorials are arranged to compensate for individual learning differences, when required.

Many modules include assessed coursework assignments which require you to carry out a substantial study of selected topics, either as individuals or in groups, leading to considerable depth of understanding and specialist

knowledge. Assessment is designed to show that you can rationally use taught material and have a fundamental understanding of the subject matter. Feedback on progress is given to students on all submitted work.

Assessment
Testing of the knowledge base is through a combination of unseen written examinations and assessed coursework in the form of problem solving exercises, laboratory reports, design exercises, essays, and individual and group projects. 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.

Special Features of the programme

Please note: 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

Within this programme of study, we aim to develop and enhance your knowledge of, and enthusiasm for Advanced Mechanical Engineering Science which can be taken in a number of themes (currently, Mechatronics, Engineering Materials, Computational Engineering Design, and Propulsion and Engine Systems Engineering).

This programme aims to provide science and engineering graduates from diverse backgrounds with an academically challenging exposure to current Advanced Mechanical Engineering Science.

The aims of the programme are to:
- Enable you to acquire advanced knowledge and practical skills needed for a professional career in your chosen specialist theme and to provide you with specialist knowledge and skills relevant to that theme
- Provide you with a sound understanding of the fundamental principles, operation requirements, design criteria and engineering applications in advanced mechanical engineering science
- Enhance your transferable skills, including critical analysis, problem solving, project management, decision making, leadership, and communication by oral, visual and/or written means
- Equip you with specialist knowledge, scientific and technical expertise and research skills for further research in Advanced Mechanical Engineering Science.

Programme Learning Outcomes

Disciplinary Specific Learning Outcomes

On successful completion of this programme you will be able to:

E1. Design and conduct an appropriate programme of work to set objectives for research in the context of Advanced Mechanical Engineering Science
E2. Use scientific and technical literature in support of research
E3. Apply fundamental knowledge and understanding of essential facts, concepts and principles relevant to Advanced Mechanical Engineering Science in researching complex problems

Science and Mathematics

Engineering is underpinned by science and mathematics, and other associated disciplines, as defined by the relevant professional engineering institution(s). On graduation you will have achieved:

SM7. A comprehensive understanding of the relevant scientific principles of Advanced Mechanical Engineering Science
SM8. A critical awareness of current problems and/or new insights most of which is at, or informed by, the forefront of Advanced Mechanical Engineering Science
SM9. Understanding of concepts relevant to Advanced Mechanical Engineering Science, some from outside engineering, and the ability to evaluate them critically and to apply them effectively, including in engineering projects

Engineering analysis

Engineering analysis involves the application of engineering concepts and tools to the solution of Advanced Mechanical Engineering Science problems. On graduation you will have achieved:

EA5. Ability to use fundamental knowledge to investigate new and emerging technologies
EA6. Ability both to apply appropriate engineering analysis methods for solving complex problems in engineering and to assess their limitations
EA7. Ability to collect and analyse research data and to use appropriate engineering analysis tools in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate innovation, use or adaptation of engineering analytical methods

Design

Design at this level is the creation and development of an economically viable product, process or system to meet a defined need. It involves significant technical and intellectual challenges and can be used to integrate all engineering understanding, knowledge and skills to the solution of real and complex problems. On graduation you will have the knowledge, understanding and skills to:

D9. Knowledge, understanding and skills to work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies
D10. Knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations
D11. Ability to generate an innovative design for products, systems, components or processes to fulfil new needs

Economic, legal, social, ethical and environmental context

Engineering activity can have impacts on the environment, on commerce, on society and on individuals. Graduates therefore need the skills to manage their activities and to be aware of the various legal and ethical constraints under which they are expected to operate, including:

EL8. Awareness of the need for a high level of professional and ethical conduct in engineering
EL9. Knowledge and understanding of management and business practices, their limitations, and how these may be applied in the context of Advanced Mechanical Engineering Science
EL9. Awareness that engineers need to take account of the commercial and social contexts in which they operate
EL10. Awareness that engineering activities should promote sustainable development and ability to apply quantitative techniques where appropriate
EL12. Awareness of relevant regulatory requirements governing engineering activities in the context of Advanced Mechanical Engineering Science
EL13. Awareness of and ability to make general evaluations of risk issues in the context of Advanced

Mechanical Engineering Science, including health & safety, environmental and commercial risk

Engineering practice

This is the practical application of engineering skills, combining theory and experience, and use of other relevant knowledge and skills. On graduation you will have achieved:

P9. A thorough understanding of current Advanced Mechanical Engineering Science practice and its limitations, and some appreciation of likely new developments
P10. Ability to apply engineering techniques taking account of a range of commercial and industrial constraints
P11. Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader
P12. Advanced level knowledge and understanding of a wide range of engineering materials and components

Additional general skills

On graduation you will have developed transferable skills, additional to those set out in the other learning outcomes, that will be of value in a wide range of situations, including the ability to:

G1. Apply their skills in problem solving, communication, working with others, information retrieval, and the effective use of general IT facilities
G2. Plan self-learning and improve performance, as the foundation for lifelong learning/CPD
G3. Monitor and adjust a personal programme of work on an on-going basis
G4. Exercise initiative and personal responsibility, which may be as a team member or leader

Programme Structure

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Computational Engineering and Design Pathway

Part I

The taught component of each Theme consists of four compulsory modules (five for the MSc Engineering Materials) plus option modules chosen to total 60 ECTS/120 CATS, at least 45 ECTS/90 CATS of which must be at level 7 (level M). The research project and dissertation are equivalent to 30 ECTS/60 CATS at level 7 (level M).

You will select all your option taught modules at the start of the programme and to achieve a balance in study commitments throughout the year it is recommended you take either four or five modules in semester 1. The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.

The 'online programme catalogue' allows viewing of full content for each theme for each year and contains hyperlinks to online module specifications. 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/what_we_do/mechanical_engineering.page?#education

The programme structure reflects the taught modules offered in 2020-21, and is subject to minor alteration

from year to year. Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Note: It is possible that module prerequisites may be omitted at the discretion of the module lecturer depending on previous experience.

Part I Compulsory modules

MSc Computational Engineering and Design - 30 ECTS (60 CATS)

Code	Module Title	ECTS	Type
FEEG6002	Advanced Computational Methods I	7.5	Compulsory
FEEG6009	Design Search and Optimisation (DSO) - Principles, Methods, Parameterizations and Case Studies	7.5	Compulsory
SESM6039	Introduction to Advanced Mechanical Engineering Science (AMES)	7.5	Compulsory
MATH6141	Numerical Methods	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

MSc Computational Engineering and Design - choose 30 ECTS (60 CATS) (maximum 30 CATS at level 6)

Part I Optional modules Group 1 — Level 6 Modules

You can select up to 30 CATS from the following:

Code	Module Title	ECTS	Type
MATH3083	Advanced Partial Differential Equations	7.5	Optional
SESA3026	Aircraft Structural Design	7.5	Optional
SESM3029	Engineering Design with Management	7.5	Optional
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Optional

Part I Optional modules Group 2 — Level 7 Modules

Code	Module Title	ECTS	Type
FEEG6010	Advanced Finite Element Analysis	7.5	Optional
SESA6077	Aeroelasticity	7.5	Optional
FEEG6005	Applications of CFD	7.5	Optional
SESM6038	Computational methods in biomedical engineering design	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Engineering Materials Pathway

Part I

The taught component of each Theme consists of four compulsory modules (five for the MSc Engineering Materials) plus option modules chosen to total 60 ECTS/120 CATS, at least 45 ECTS/90 CATS of which must be at level 7 (level M). The research project and dissertation are equivalent to 30 ECTS/60 CATS at level 7 (level M).

You will select all your option taught modules at the start of the programme and to achieve a balance in study commitments throughout the year it is recommended you take either four or five modules in semester 1. The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.

The 'online programme catalogue' allows viewing of full content for each theme for each year and contains hyperlinks to online module specifications. 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/what_we_do/mechanical_engineering.page?#education

The programme structure reflects the taught modules offered in 2020-21, and is subject to minor alteration from year to year. Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Note: It is possible that module prerequisites may be omitted at the discretion of the module lecturer depending on previous experience.

Part I Compulsory modules

MSc Engineering Materials - 22.5 ECTS (45 CATS)

Code	Module Title	ECTS	Type
SESG6040	Failure of Materials and Components	7.5	Compulsory
SESM6039	Introduction to Advanced Mechanical Engineering Science (AMES)	7.5	Compulsory
SESG6042	Materials for Transport Applications	7.5	Compulsory
SESG6044	Microstructural and Surface Characterisation	7.5	Compulsory
SESG6034	Surface Engineering	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

MSc Engineering Materials - choose 22.5 ECTS (45 CATS) (maximum 15 ECTS (30 CATS) from level 6 modules)

Part I Optional modules Group 1 — Level 6 Modules

You can select up to 30 CATS from the following
:

Code	Module Title	ECTS	Type
SESA3026	Aircraft Structural Design	7.5	Optional
SESM3028	Biomaterials	7.5	Optional
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Optional
SESG3024	Manufacturing and Materials	7.5	Optional

Part I Optional modules Group 2 — Level 7 Modules

Code	Module Title	ECTS	Type
SESM6034	Advanced Electrical Systems	7.5	Optional
FEEG6008	Advanced Photovoltaics, Fuel Cells and Batteries	7.5	Optional
SESA6075	Aircraft Propulsion	7.5	Optional
SESG6039	Composites Engineering Design and Mechanics	7.5	Optional
FEEG6007	Principles of Photovoltaics, Fuel Cells and Batteries	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Mechatronics Pathway

Part I

The taught component of each Theme consists of four compulsory modules (five for the MSc Engineering Materials) plus option modules chosen to total 60 ECTS/120 CATS, at least 45 ECTS/90 CATS of which must be at level 7 (level M). The research project and dissertation are equivalent to 30 ECTS/60 CATS at level 7 (level M).

You will select all your option taught modules at the start of the programme and to achieve a balance in study commitments throughout the year it is recommended you take either four or five modules in semester 1. The most up to date description of the content is in the on-line programme catalogue: https://studentrecords.soton.ac.uk.

The ‘online programme catalogue’ allows viewing of full content for each theme for each year and contains hyperlinks to online module specifications. 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/what_we_do/mechanical_engineering.page?#education

The programme structure reflects the taught modules offered in 2020-21, and is subject to minor alteration from year to year. Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Note: It is possible that module prerequisites may be omitted at the discretion of the module lecturer depending on previous experience.

Part I Compulsory modules

MSc Mechatronics - 37.5 ECTS (75 CATS)

Code	Module Title	ECTS	Type
ISVR6139	Active Control of Sound and Vibration	7.5	Compulsory
SESM6034	Advanced Electrical Systems	7.5	Compulsory
SESM3030	Control and Instrumentation	7.5	Compulsory
SESM6039	Introduction to Advanced Mechanical Engineering Science (AMES)	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

MSc Mechatronics - choose 22.5 ECTS (45 CATS) (maximum 7.5 ECTS (15 CATS) at level 6)

Part I Optional modules Group 1 — Level 6 Modules

You can select up to 30 CATS from the following:

Code	Module Title	ECTS	Type
SESM3029	Engineering Design with Management	7.5	Optional
FEEG3001	Finite Element Analysis in Solid Mechanics	7.5	Optional
ELEC3201	Robotic Systems	7.5	Optional

Part I Optional modules Group 2 — Level 7 Modules

Code	Module Title	ECTS	Type
FEEG6002	Advanced Computational Methods I	7.5	Optional
FEEG6008	Advanced Photovoltaics, Fuel Cells and Batteries	7.5	Optional
SESG6035	Advanced Sensors and Condition Monitoring	7.5	Optional
SESM6037	Automotive Propulsion	7.5	Optional
MATH6141	Numerical Methods	7.5	Optional
FEEG6007	Principles of Photovoltaics, Fuel Cells and Batteries	7.5	Optional
CENV6016	Transport Economics	7.5	Optional

The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Propulsion and Engine Systems Engineering Pathway

Part I
The taught component of each Theme consists of four compulsory modules (five for the MSc Engineering Materials) plus option modules chosen to total 60 ECTS/120 CATS, at least 45 ECTS/90 CATS of which must be at level 7 (level M). The research project and dissertation are equivalent to 30 ECTS/60 CATS at level 7 (level M).

You will select all your option taught modules at the start of the programme and to achieve a balance in study commitments throughout the year it is recommended you take either four or five modules in semester 1.
The most up to date description of the content is in the on-line programme catalogue:
https://studentrecords.soton.ac.uk.

The 'online programme catalogue' allows viewing of full content for each theme for each year and contains hyperlinks to online module specifications. 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/what_we_do/mechanical_engineering.page?#education

The programme structure reflects the taught modules offered in 2019-20, and is subject to minor alteration from year to year. Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Note: It is possible that module prerequisites may be omitted at the discretion of the module lecturer depending on previous experience.

Part I Compulsory modules

MSc Propulsion and Engine Systems Engineering -30 ECTS (60 CATS)

Code	Module Title	ECTS	Type
SESM6034	Advanced Electrical Systems	7.5	Compulsory
SESA6075	Aircraft Propulsion	7.5	Compulsory
SESM6037	Automotive Propulsion	7.5	Compulsory
SESM6039	Introduction to Advanced Mechanical Engineering Science (AMES)	7.5	Compulsory

Part I Core modules

Code	Module Title	ECTS	Type
FEEG6012	MSc Research Project	30	Core

Part I Optional modules

MSc Propulsion and Engine Systems Engineering - choose 30 ECTS (60 CATS) (max 15 ECTS (30 CATS) at level 6)

Part I Optional modules Group 1 — Level 6 Modules

You can select up to 30 CATS from the following:

Code	Module Title	ECTS	Type
SESM3029	Engineering Design with Management	7.5	Optional

Part I Optional modules Group 2 — Level 7 Modules

Code	Module Title	ECTS	Type
SESG6035	Advanced Sensors and Condition Monitoring	7.5	Optional
FEEG6005	Applications of CFD	7.5	Optional
SESG6040	Failure of Materials and Components	7.5	Optional
ISVR6136	Fundamentals of Acoustics	7.5	Optional
SESG6042	Materials for Transport Applications	7.5	Optional
SESG6044	Microstructural and Surface Characterisation	7.5	Optional
FEEG6007	Principles of Photovoltaics, Fuel Cells and Batteries	7.5	Optional
SESA6071	Spacecraft Propulsion	7.5	Optional
CENV6016	Transport Economics	7.5	Optional
SESM6050	Tribology for Future Mobility	7.5	Optional

Progression Requirements

The programme follows the University's regulations for ***Progression, Determination and Classification of Results : Undergraduate and Integrated Masters Programmes*** or ***Progression, Determination and Classification of Results: Postgraduate Master's Programmes***. Any exemptions or variations to the University regulations, approved by AQSC are located in ***section VI of the University Calendar***.

Support for student learning

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
- Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling. Support includes daily Drop In at Highfield campus at 13.00 – 15.00 (Monday, Wednesday and Friday out of term-time) or via on-line chat on weekdays from 14.00 – 16.00. Arrangements can also be made for meetings via Skype.
- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Career and Employability services, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV.

- Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls and in the local community (18.00-08.00).
- A Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

The Students' Union provides
- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.
- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline.

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

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· high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
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· standard ICT tools such as Email, secure filestore and calendars.
· access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
· IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
· Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling.
· assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
· the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
· Career Destinations, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV
· Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls (18.00-08.00), a Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

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· an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.
· opportunities for extracurricular activities and volunteering
· an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
· Support for student peer-to-peer groups, such as Nightline.

Associated with your programme you will be able to access:
 Induction programme for orientation, introduction of the programme and staff, and dissemination of materials.
 Student Coursebook, including guidance on selection of study programmes.
 Administrative and academic material on the Faculty, Programme and individual module web sites and/or Blackboard.
 A personal tutor to assist with organisational and personal matters.
 Further support is provided by the project supervisor when the research project starts.

- Careers advice and dissemination of available job advertisements.
- Personal e-mail account and e-mail access to staff via University system.
- School clusters of computers with relevant specialist software.
- Formal progress monitoring during research project.
- Support for international students.

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:

- Completing student evaluation questionnaires for each module of the programme.
- Acting as a student representative on various committees, e.g. Staff/Student Liaison Committees, School Programmes Committee OR providing comments to your student representative to feedback on your behalf.
- Serving as a student representative on Faculty Scrutiny Groups for programme validation.
- Taking part in programme validation meetings by joining a panel of students to meet with the Faculty Scrutiny Group.

Further details on the University's quality assurance processes are given in the ***Quality handbook***.

External Examiner(s) for the programme

Name: Professor Stephen Eichhorn - University of Exeter

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 Academic 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 they take full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook.

Appendix 1:

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 also have to pay for:

Additional Costs

Type	Details

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***.