Programme Specification

MSc Nanoelectronics and Nanotechnology (2017-18)

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	Electronics and Computer Science University of Southampton Highfield Campus
Mode of Study	Full Time
Duration in Years	1 Year
Accreditation details	Currently Partially Accredited by the IET
Final award	Master of Science (MSc)
Name of award	Nanoelectronics and Nanotechnology
Interim Exit awards	Postgraduate Diploma Postgraduate Certificate
FHEQ level of final award	Level 7
UCAS code	n/a
QAA Subject Benchmark or other external reference	The UK Quality Assurance Agency's Framework for Higher Education Qualifications (Level 7 - Masters) The IET Learning Outcomes Handbook For Bachelors And MEng Degree Programmes The Engineering Council UK-SPEC: UK Standard For Professional Engineering Competence
Programme Coordinator	Martin Charlton
Date specification was written	10/06/2015
Date Specification was last updated	07/12/2017

Programme Overview

Brief outline of the programme

Electronic technologies have evolved to the extent that modern device features are now measured in nanometres and new device concepts, fabrication methods and characterisation techniques have emerged. Nano-electronics and Nanotechnology explore how to scale commercially-available logic and memory devices, such as MOSFETs, SRAM, FLASH, and hard disk drives into the future, in which these devices are only a few tens of nanometres long. This field also includes the development of new materials and effects that exploit the inherent quantum mechanical nature of devices at that scale. The programme not only covers the fundamentals and practical aspects of device operation, but also provides a strong grounding in how to build and characterise these devices, learning about (and seeing in action) state-of-art equipment.

This engineering programme is taken by a cohort of international students and covers not only the specific fundamentals of the technologies, but also the practical requirements in industrial settings and the methods used in the design of the next generation of devices and systems. The state-of-the-art in this field requires adaptable and creative engineers, who can deliver products against an increasing range of requirements, covering not just technical aspects but also sustainable goals, societal and environmental impacts.

Nanotechnology is multidisciplinary, covering physics, material science, chemistry and electronic engineering. Students will be able to study a range of areas and bring this knowledge to bear on the next generation of nanoelectronics.

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.

Learning and teaching

Modules consist of a combination of lectures, small group teaching, practical work, directed reading and coursework assignments. Most of the modules contain a laboratory or practical component which is delivered via hands-on practical sessions. One third of the course is an individual project within a research group or in industry, delivered by one-to-one supervision.

Assessment

Assessment is by a combination of written examinations and coursework. The proportion of examinations to coursework varies between modules. Depending on the choice of modules, about 50% of the marks will be derived from coursework, with the individual project assessed by dissertation. Coursework takes the form of problem solving exercises, laboratory reports with literature review components, design exercises, and individual and small-group projects. Experimental, research and design skills are also assessed through the Project Preparation module and the Individual Research Project by means of written exercises, presentation and the project dissertation.

Educational Aims of the Programme

The School of Electronics and Computer Science has a leading international reputation for its research. Each MSc programme offers a postgraduate education in one of the research specialisations of the School.
The programme aims to:

- Provide you with advanced knowledge of nanoscale electronic engineering
- Develop your research skills applicable to a career in manufacturing, development or research
- Stimulate your interest in the subject using a variety of learning environments

Programme Learning Outcomes

Knowledge and Understanding

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

A1. the scientific and technological principles underlying nanoelectronic devices and more generic applications of electronic engineering to nanotechnology
A2. techniques used for the fabrication of micro and nanoscale electronic devices and components
A3. methods for characterisation and analysis of electronic devices and systems
A4. the design of electronic systems and nanoelectronic devices

Teaching and Learning Methods

A1, A2, A3, A4. Most modules consist of a combination of lectures, small group teaching, practical work, directed reading and coursework assignments. At the end of the taught part of the course you will undertake an individual project within a research group or in industry. The MSc dissertation and several courseworks contain a literature review component. Small group teaching, including all practical work, and the individual project accommodate different learning styles. One-on-one tutorials can support full-class lectures, when required.

Assessment methods

A1, A2, A3, A4. Your knowledge and understanding of each subject will be assessed through a combination of written examinations and coursework. The proportion of examinations to coursework varies between modules. Depending on your choice of modules, about 50% of your marks will be derived from coursework, with the individual project assessed by dissertation. Assessment is through a combination of unseen written examinations and assessed coursework in the form of problem solving exercises, laboratory reports with literature review components, design exercises, and individual and small-group projects.

Subject Specific Intellectual and Research Skills

Having successfully completed this programme you will be able to:

B1. Specify and design electronic nano-devices with attention to a wide range of outcomes, including technical, practical, innovation and sustainability.
B2. Use mathematical methods to model and simulate the behaviour of parts of nano-devices and complete circuits at the appropriate level of detail
B3. Verify a device design by fabrication and measuring appropriate devices
B4. Find, read, understand and explain scientific publications related to nanoelectronics and nanotechnology, including scientific publications, industrial documentation, standards, ethical, legal and environmental guidance.
B5. Undertake research into nano-electronic device operation and fabrication problems.

Teaching and Learning Methods

B1, B2, B3: Design skills are developed through individual practical work and the individual project. Modelling, simulation and verification are taught in various modules and applied through coursework components. The practical work includes clean room, wet lab and simulation laboratories, directed reading and coursework assignments, which can contain a literature review.
B4, B5: The Project Preparation module and the Individual Project itself concern the formulation of a research project. Small group teaching, including all practical work, and the individual project accommodate different learning styles. One-on-one tutorials can support full-class lectures, when required.

Assessment methods

B1, B2, B3, B4, B5. Design skills are assessed in examination questions and in coursework. Modelling, simulation and verification form a significant aspect of the coursework in the design projects and is assessed through the delivery of a documented design.
B4. The Project Preparation module and the dissertation from the MSc Project include a significant literature survey and have assessment criteria to reflect this specifically.
B5. The Project dissertation is centrally focussed on assessing the difference aspects of research skills.

Transferable and Generic Skills

As an existing engineering graduate, you will already be expected to have a general proficiency with IT, to be numerate and to be proficient in English. Your choice of modules will determine how and where these general skills are further developed, but having successfully completed this programme you will be able to:

Having successfully completed this programme you will be able to:

C1. Use conventional and electronic indexing and search methods to find technical information
C2. Present technical information in written and verbal forms
C3. Work in a pair or in a small group on a given task, managing your own contribution and the overall task
C4. Work independently on a significant research project

Teaching and Learning Methods

A number of courses have a significant coursework element. This can range from design work through to presentations resulting from directed reading. The individual project includes independent research, project management and report writing.

C1-C3: Most modules include small group teaching, practical work with one or more lab partners, directed reading and coursework assignments with a literature review component. The Project Preparation module includes project management and the delivery of a project plan via a presentation. Small group teaching, including all practical work, and the individual project accommodate different learning styles.
C4: The individual project includes independent research and report writing.

Assessment methods

Coursework is generally assessed through written reports. The individual project is assessed by a dissertation of up to 15,000 words. The Project Preparation module is assessed via a literature review, as well as written and presentation versions of the project plan.

Subject Specific Practical Skills

The exact subject specific practical skills developed by the programme depend upon the optional modules that you choose. Having successfully completed this programme you will be able to:

D1. Perform basic lithography procedures in a clean room environment
D2. Make electronic measurements on nano-electronic devices using state-of-the-art equipment.
D3. Build physics-based simulation models with industry-standard software packages or other mathematical techniques
D4. Design experiments to evaluate designs and models, and obtain device parameters from analysis of data

Teaching and Learning methods:

D1, D2, D3, D4: These skills will be developed through coursework and project work. Most modules include practical work, ranging from cleanroom activities, hands-on practicals to simulation laboratories. The individual project will involve one or more subject specific practical skills, with one-to-one training delivered by the supervisory team or technical staff.

Assessment methods:

Assessment is based on coursework in the form of laboratory reports and the MSc dissertation.

Programme Structure

Typical course content

The programme consists of eight taught modules, each worth 7.5 ECTS credit points and an individual project worth 30 ECTS credit points. The core subjects are related to nanoelectronics and nanotechnology, covering device structure, operation and fabrication methods.

There are a range of optional courses (one per semester) covering bio-related nanotechnology, microelectronic design, photonics and microelectromechanical systems allowing you to tailor the structure to suit your interests. You will also be able to choose and develop a project within several research areas in the department, which will allow further exploration of a specialist area of nanoelectronics and nanotechnology.

Special Features of the programme

This programme will allow you to engage in highly specialised activities revolving around the production of micro and nanoscale devices in cleanroom environments. You will also be exposed to a wide range of industry standard equipment and simulation/modelling tools.

Programme details

There are a number of compulsory and optional modules. Most of these modules are shared with Master of Engineering programmes in Electronics. It should be noted that it may not be possible to run some optional modules if the number of students registered on the module is very small. It should also be noted that optional module choice can be restricted by the University Timetable, which varies from year to year: some optional modules may clash with other optional or compulsory modules. Please be aware that many modules are shared between different cohorts; the class size depends on cohort size, which varies from year to year.

Examinations are held at the end of Semester 1 (January) and at the end of Semester 2 (May/June). Students who have successfully completed 30 or 60 ECTS-CP worth of taught material may exit with a Postgraduate Certificate or Postgraduate Diploma respectively.

The following is the normal pattern of study for a full-time student, completing the programme within 12 calendar months.

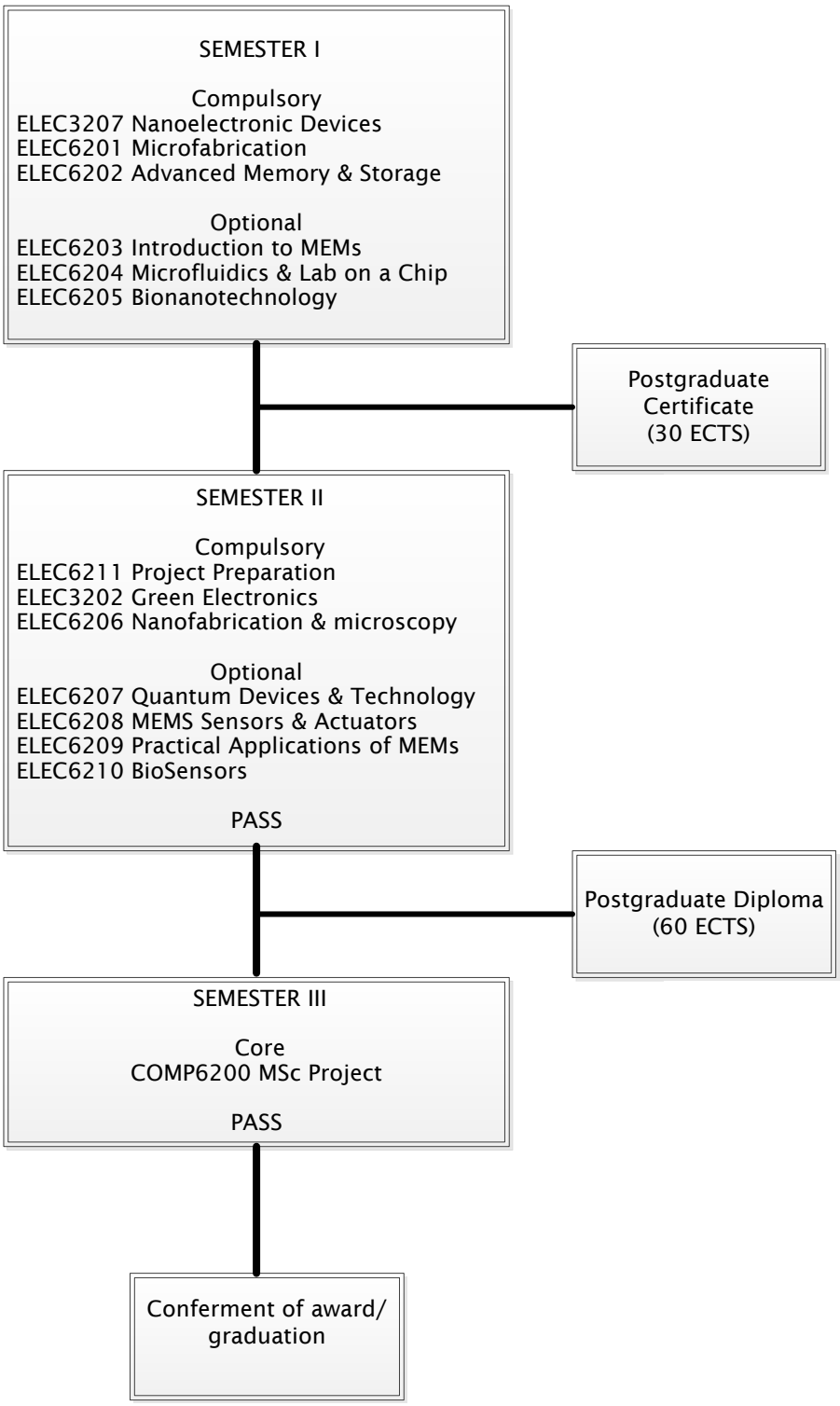
Semester 1:
Four modules, including those specified as compulsory for the MSc programme. Examinations are held in January.

Semester 2:
Four modules; including those specified as compulsory for the MSc programme. Examinations are held in May.

Summer/Semester 3:
Following the successful completion of the taught component of the programme, you will undertake a research project lasting 14 weeks, which is assessed by a 15,000 word dissertation.

The diagram below shows the overall structure and exit points. The precise list of options may vary in minor ways from year to year, depending on student numbers and staff availability.

MSc Nanoelectronics and Nanotechnology programme structure



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 2.

Progression Requirements

The programme follows the University's regulations for Standalone Masters programmes as set out in the University Calendar, and the ECS specific regulations which supplement these. See sections IV and XII of http://www.calendar.soton.ac.uk. The pass mark for MSc modules is 50%, and the regulations cover progression criteria, referral, repeat and resubmission arrangements, together with degree classification.

Intermediate exit points (where available)

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
Postgraduate Diploma	at least 60	45
Postgraduate Certificate	at least 30	20

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. Students can also access SVE (Southampton Virtual Environment), a virtual Windows University of Southampton desktop that can be accessed from personal devices such as PCs, Macs, tablets and smartphones from any location.
- 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.
- Central IT support is provided through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library foyer
- Enabling Services offering assessment and support (including specialist IT support) facilities if you have a disability, dyslexia, mental health issue or specific learning difficulties
- 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
- a range of personal support services : mentoring, counselling, residence support service, chaplaincy, health service
- 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.

Associated with your programme you will be able to access:

- The tutorial system – you will have a personal tutor whom you can meet on request for advice on your programme and choice of options, or for pastoral support
- The ECS Student Advisory Team who provide additional pastoral support
- ECS computer workstations, with a range of manuals and books
- Specialist project laboratories
- Personal email account and web access, including use of on-line collaboration tools
- Helpdesk (programming advisory)
- Post-graduate demonstrators who provide additional support for your design projects
- A web-site for each taught module, typically with teaching materials.

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, Faculty Programmes Committee OR providing comments to your student representative to feed back 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

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

- Regular module and programme reports which are monitored by the Faculty
- Programme validation, normally every five years.
- External examiners, who produce an annual report
- Professional body accreditation/inspection
- A national Research evaluation exercise (our research activity contributes directly to the quality of your learning experience)
- Institutional Review by the Quality Assurance Agency

Criteria for admission

The University's 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.

Undergraduate programmes

Qualification	Grades	Subjects required	Subjects not accepted	EPQ Alternative offer (if applicable)	Contextual Alternative offer (if applicable)
GCE A level					
GCSE					
BTEC					
International Baccalaureate					
European Baccalaureate					

Postgraduate programmes

Qualification	Grade/GPA	Subjects requirements	Specific requirements
Bachelor's degree	2:1 Honours	3-4 Electronics Modules, Physics or Semiconductor Modules	
Master's degree			

Mature applicants
Applications from mature students (over 21 years in the October of the year of entry) are welcome. Applications will be considered on an individual basis.

English Language Proficiency

Overall	Reading	Writing	Speaking	Listening
6.5	6.0	6.0	6.0	6.0

Career Opportunities

This programme provides an excellent platform for further research in either industry or academia.

Graduates from our MSc programme are employed worldwide in leading companies at the forefront of technology. ECS runs a dedicated careers hub which is affiliated with over 100 renowned companies like IBM, ARM, Microsoft Research, Imagination Technologies, Nvidia, Samsung and Google to name a few.

External Examiners(s) for the programme

Name Professor Scott Roy
Institution University of Glasgow

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 following locations:

- Online: http://www.ecs.soton.ac.uk/programmes/msc-nanoelectronics-and-nanotechnology
- Faculty Student Handbook: http://www.fpse.soton.ac.uk/student_handbook
- ECS student homepage: https://secure.ecs.soton.ac.uk/student/

Appendix 1:

Learning outcomes and Assessment Mapping document template

The numbers A1 A2 B1 B2 etc refer back to the learning outcomes listed under Knowledge and Understanding, Subject Specific Intellectual and Research Skills, Transferable and Generic Skills and Subject Specific Practical Skills in the Programme Learning Outcomes section of this programme specification template.

		Knowledge and Understanding				**Subject Specific Intellectual Skills**					**Transferable/ Key Skills**				**Subject Specific Practical Skills**			
Module Code	Module Title	A1	A2	A3	A4	B1	B2	B3	B4	B5	C1	C2	C3	C4	D1	D2	D3	D4
Semester 1 – Compulsory																		
ELEC6201	Microfabrication		X			X		X			X	X	X		X			X
ELEC3207	Nanoelectronic Devices	X	X	X	X	X	X				X	X					X	X
ELEC6202	Advanced Memory & Storage	X		X		X		X				X	X			X		X
Semester 2 – Compulsory																		
ELEC6211	Project Preparation	X	X	X	X	X			X	X	X	X		X				X
ELEC6206	Nanofabrication & microscopy		X	X			X				X	X	X				X	X
ELEC3211	Green Electronics	X	X		X			X			X	X	X			X		X
Semester 3 – Core																		
COMP6200	MSc Project	X	X	X	X	X	*	*	X	X	X	X		X	*	*	*	X
Semester 1 – Optional																		
ELEC6203	Introduction to MEMs	X		X	X		X		X		X	X					X	X
ELEC6204	Microfluidics & Lab-on-a-Chip	X	X		X	X	X				X	X					X	X
ELEC6205	Bionanotechnology	X				X		X	X		X	X	X		X	X		X
Semester 2 – Optional																		
ELEC6207	Quantum Devices & Technology	X		X	X	X		X				X	X			X		X
ELEC6208	MEMS Sensors & Actuators		X		X	X	X	X			X	X	X			X	X	X
ELEC6209	Practical Applications of MEMs		X		X	X		X			X	X	X			X		X
ELEC6210	BioSensors	X	X	X		X		X	X		X	X	X					X

* depends on the details of the selected project

There are no co-requisite modules in the programme. The pre-requisites are:

ELEC6201 Microfabrication is a pre-requisite for ELEC6206 Nanofabrication and Microscopy (both compulsory)
ELEC3207 Nanoelectronic Devices is a pre-requisite for ELEC6207 Quantum Devices and Technology
ELEC6205 Bionanotechnology is a pre-requisite for ELEC6210 Biosensors (both compulsory)
ELEC6203 Introduction to MEMS is a pre-requisite for ELEC6208 MEMS Sensors and Actuators (optional)
ELEC6203 Introduction to MEMS is a pre-requisite for ELEC6209 Practical Applications of MEMS (optional)

Module Code	**Module Title**	**Coursework 1**	**Coursework 2**	**Exam**
Semester 1 – compulsory modules				
ELEC3207	Nanoelectronic Devices	Simulation Lab Report **30 %**		**70 %**
ELEC6201	Microfabrication	Fabrication Report **30 %**		**70 %**
ELEC6202	Advanced Memory & Storage	Device and Lab Report **50%**		**50%**
Semester 2 – compulsory modules				
ELEC3202	Green Electronics	Lab Report **30 %**		**70 %**
ELEC6206	Nanofabrication and Microscopy	Simulation Lab Report **30 %**		**70 %**
ELEC6211	Project Preparation	General Literature Review **40%**	Project Plan and Methodology Report **30%** & Poster **30%**	n/a
Semester 3 / Part II – core module				
COMP6200	MSc Project	MSc dissertation **100 %**		n/a
Semester 1 – optional modules (one module to be selected)				
ELEC6204	Microfluidics and Lab-on-a-Chip	Simulation Lab Report **30 %**		**70 %**
ELEC6205	Bionanotechnology	Wet Lab Report **30 %**		**70 %**
ELEC6203	Introduction to MEMS	Lab Report **30 %**		**70 %**
Semester 2 – optional modules (one module to be selected)				
ELEC6207	Quantum Devices & Technology	Device and Lab Report **50 %**		**50%**
ELEC6210	Biosensors	Wet Lab Report **50 %**		**50 %**
ELEC6208	MEMS Sensors and Actuators	3 Reports 3 x 25 % = **75 %**	MEMS Lab Work **25 %**	n/a
ELEC6209	Practical Applications of MEMS	3 Reports 3 x 30 % = **90 %**	2 x Lab Work 2 x 5 % = **10 %**	n/a

Appendix 2:

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		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 stationary items, e.g. pens, pencils, notebooks, etc). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.
T**extbooks**		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 Equipment	Art Equipment and Materials: Drawing paper; painting materials; sketchbooks	
	Art Equipment and Materials: Fabric, Thread, Wool	
	Design equipment and materials:	
	Excavation equipment and materials:	
	Field Equipment and Materials:	
	Laboratory Equipment and Materials:	
	Medical Equipment and Materials: Fobwatch; stethoscopes;	

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
	Music Equipment and Materials	
	Photography:	
	Recording Equipment:	
IT	Computer Discs	
	Software Licenses	
	Hardware	
Clothing	Lab Coats	
	Protective Clothing: Hard hat; safety boots; hi-viz vest/jackets;	
	Fieldcourse clothing:	
	Wet Suits?	
	Uniforms?	
Printing and Photocopying Costs		In the majority of cases, coursework such as essays; projects; dissertations is likely to be submitted on line. However, there are some items where it is not possible to submit on line and students will be asked to provide a printed copy.
Fieldwork: logistical costs	Accommodation:	
	Insurance	
	Travel costs	
	Immunisation/vaccination costs	
	Other:	
Placements (including Study Abroad Programmes)	Accommodation	
	Insurance	
	Medical Insurance	
	Travel costs	
	Immunisation/vaccination costs	
	Disclosure and Barring Certificates or Clearance	
	Translation of birth certificates	
	Other	
Conference expenses	Accommodation	
	Travel	
Optional Visits (e.g. museums, galleries)		
Professional Exams		
Parking Costs		
Anything else not covered elsewhere		

Revision History

1. Update to Support and Student Learning, IT Services - June 2015
2. Update to Language Requirements - June 2015
3. Approved by ECS Education Committee - 10 June 2015
4. Update to Programme Overview (CMA Changes) – 24 August 2015
5. Update to Programme Overview (CMA Changes) – 14 September 2015
6. 2016-17 FPC Approval – 24 February 2016
7. Removed reference to CPD – 03 August 2016
8. Optional Module Viability added – 07 December 2016
9. Roll-over to 2017-18; programme learning outcome updated for IET - 07 March 2017
10. FPC approval for 2017-18 – 08 March 2017
11. FPC approval of optional module size caveat – CQA Team, 07 December 2017