ENGINEERING AND DESIGN

Postgraduate Taught Handbook 2018/2019

MSc 5G Mobile Communications and Intelligent Embedded Systems

MSc 5G Mobile Communications and Intelligent Embedded Systems (with an industrial placement year)

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Welcome to the Department of Engineering and Design. You are joining a vibrant and friendly community in which both teaching and research are highly valued. We aim to help you settle into it as quickly as smoothly as possible, with the support of your academic advisors, current student reps and mentors, and the staff in the School Office. Please get to know them as soon as you can.

I very much hope that you will enjoy your time at Sussex, join in with the activities of the Department and benefit greatly from your studies. I look forward to getting to know you.

Professor Maziar Nekovee
Head of Department

Course Convenor
Dr Falah Ali
f.h.ali@sussex.ac.uk

Welcome to the 5G Mobile Communications and Intelligent Embedded Systems MSc degree course. The degree course addresses technical topics that play an essential role at every level in modern society. It aims to enhance both your theoretical knowledge in the core subjects of the degree, while the options available cover a range of application areas and allow for individual specialisation to suit your interests and future career plans.

The degree provides a thorough coverage of 5G Mobile Communications and Intelligent Embedded Systems and their applications. Lectures will provide a set of core modules to give a solid foundation in 5G Mobile Communications and Intelligent Embedded Systems, the module lectures being supported by both software and hardware laboratory classes. You'll benefit from hands-on learning, using for example wireless communications design tools, software-defined radios, IoT platforms and wearable and reconfigurable technologies. The core modules are **Mobile Communications**, **Internet of Things**, **Real-time Embedded Systems**, **Topics in Wireless Communications**, **Reconfigurable System on a Chip** and **Wearable Technologies**. A wide range of optional modules are available in a number of related application areas that comprise: **Cybernetics and Neural Networks**, **Cryptography**, **Advanced Digital Signal Processing**, **Fibre Optic Communications**, **Satellite Space Systems** and **Digital Signal Processing Laboratory**, each of which provides an advanced coverage of modern technology areas.

The course concludes with a major 60 credit MSc project taken over a four month period during the Summer. This will be undertaken in conjunction with active researchers working in the fields of 5G Mobile Communications and Intelligent Embedded Systems, often on a project in association with an industrial company to develop an application by applying the specialist knowledge gained during the year. Graduates from the MSc will thus obtain valuable skills in core areas of technology vital to many of the current developments in modern society and so be well equipped for a wide variety of employment in the industries underpinning these developments.

The MSc course with industrial placement offers the opportunity to spend a year in the employment of a company to gain industrial experience in a real work environment; it also provides an ideal platform to launch a future career. It is incorporated as part of a (300 credit) Masters' degree course. The industrial placement is supported by the careers and employability office and the course team at Sussex.

I am available throughout your course to answer questions about how the degree is constructed, what is expected of you, and to deal with any course issues. We are continually improving the delivery of our courses, based on feedback from students, so make sure that you communicate ideas and comments either directly to me or through your student representatives.

Aim and Contents

This handbook will give you some useful information about the Department of Engineering & Design at the University of Sussex – where to find things, who does what, who you can speak to about various issues. The information given here, and a lot more detail, can be found on the Engineering & Informatics website: www.sussex.ac.uk/ei/internal/forstudents.

You will find that you can access most information about your courses and modules through CANVAS, online systems designed to give you easy access to the information you will need as a student.

Further information is provided in the Student Handbook published by the Student Services Division, and available online at http://www.sussex.ac.uk/studenthandbook/

Another good source of general information and support resources for students can be found at: www.sussex.ac.uk/students/support/

SECTION ONE: Academic Information

Term Dates – 2018-19

Arrivals weekend (new undergraduate students)	15 September 2018
Freshers' week (new undergraduate students)	17 September 2018
Autumn term	24 September to 14 December 2018
Christmas vacation	15 December 2017 to 6 January 2018
Private study period	8-10 January 2019
Mid-year assessment period	10-25 January 2019
Inter-session week	26 January to 4 February 2019
Spring term	4 February to 10 May 2019
Easter teaching break and spring vacation	24 March to 8 April 2019
Private study period	13-15 May 2019
Summer term (year-end assessment period)	16 May to 14 June 2019
Summer vacation	starts 15 June 2019
Summer vacation assessment period	19 August to 6 September 2019

Please note that exams may be scheduled during evenings and on Saturdays and Bank Holidays. For future term dates and University closure days see: www.sussex.ac.uk/aboutus/keydates

Communication

We will need to communicate with you for various purposes. **Sussex email** is the main mode of communication within the University so it is very important that you check your **Sussex email account**, every day if at all possible. University emails will be sent automatically to this account and not to any other personal email accounts. You can obtain details of your email account from IT Services.

Official University communications are sometimes sent to you by post, so it is vital that you keep your term-time address and contact details up to date on Sussex Direct. Paper-based communications are also sent via student pigeonholes, so you will need to check yours regularly. The Engineering and Design Postgraduate pigeonholes are located at the boundary between the Chichester 1 and Chichester 2 buildings on level 2 (on the 2nd floor, just off the photocopier room).

Please look at the noticeboards in the Engineering & Informatics School Office foyer area in Chichester 1 for information on examinations, student reps, student mentors, careers and placements, competitions etc.

Teaching faculty are encouraged to use an automated text messaging facility to issue emergency messages to class groups in cases of cancellation of classes, e.g. due to staff illness. This is another good reason for keeping your mobile phone details accurate on Sussex Direct.

What we expect from you

Being a student carries obligations as well as rights, especially at Sussex where there is so much emphasis placed on group teaching and project work.

Therefore, attendance at your taught sessions is a requirement and is not optional - this is monitored by the School. We expect all our students to attend at least 80% of their timetabled teaching sessions. These include lectures, laboratory sessions, workshops and seminars where a register is taken. If you are unable to attend, you should let the tutor for the session know in advance, if possible. If you are away from teaching for more than 2-3 days (due to illness, for example), you should send an email to: enginf-attendance@sussex.ac.uk – please give details of your absence and expected return date. Any unexplained or persistent absences will be noticed and you may be required to attend a meeting of the School Student Progress Committee who may then recommend that you be required to withdraw from the University, either temporarily or permanently.

Prepare for teaching sessions. Just turning up is obviously not enough. You need to have done any specified work in advance and be prepared for the session. This is particularly important for labs, where the time for practical work is limited and cannot be wasted in reading the lab script to find out what you should be doing.

Observe deadlines. Being able to organise your time and to plan ahead to meet deadlines is an important skill. So we insist that you meet deadlines for all formal assessments and other written work. Penalties will be imposed for submissions that do not meet specified deadlines and for which there is no Exceptional Circumstances (formerly known as Mitigating Evidence).

Co-operate with your fellow students. You can learn a lot and help each other by sharing resources, such as reading material and notes. In many cases you will be working in pairs or teams and need to work co-operatively to achieve the objectives of the assignment. Students often set up their own study groups and revision groups and there are plenty of places for you to work together, including Labs 1 & 2 in Chichester 1 and the mezzanine space in John Clifford West.

Use the Library. Sussex has one of the best University libraries in the country, and it is especially good in its support for postgraduate teaching. To get the best from the Library, you should arrange to attend one of the introductory tours on offer during Induction.

Use the resources on CANVAS where you will find teaching materials and discussion forums.

School Policy on Unacceptable Behaviour
The University of Sussex is committed to creating a learning environment free of harassment, discrimination, victimisation or bullying, where every person is treated with dignity and respect. All students have the right to work and study in an environment which encourages harmonious relationships.
For further advice and University procedures in the event of prejudice, harassment or bullying, please visit our dedicated website page: http://www.sussex.ac.uk/wellbeing/studentlife/harassment

Conduct in the Future Technologies Labs. The school has provided a suite of state of the art computer labs. These labs are available for you to work in 24 hours a day, 7 days a week, provided they are not occupied at full capacity with students attending classes. Please note, the PCs in the labs are maintained by IT Services, and any problems should be reported to the IT Services helpdesk in Shawcross in the first instance. These are shared labs across the departments of Informatics, Engineering and Product Design, and to ensure harmony, you must abide by the following rules:
• You must respect other users.
• When teaching is taking place in the lab, the teacher and the students in these classes have priority. You must keep noise to a minimum, and you may be asked to move to a different part of the lab or a different lab.
• The computer labs are maintained by the university's Information Technology Services (ITS), and you are responsible for reading and abiding by ITS rules about behaviour in the computer labs.
• University policy allows the lab machines to be used for personal computing projects, and we encourage the exploration of modern computing developments such as cryptocurrencies. However, the school views any use of university computing resources for direct financial reward, such as continuous BitCoin mining, as misconduct, and will be processed through the appropriate disciplinary procedures.

Attendance Etiquette:
As a courtesy to your lecturer and fellow students, the School asks that you abide by the following guidance for attendance at all timetabled sessions:

• Arrive in good time for the start of the session. If you are unavoidably late please enter the room with minimum disturbance and do not interrupt the proceedings.
• Mobile phones should be OFF - or at least on silent if you need to be contacted.
• Do not engage in private conversations during sessions.
• Do not pack-up and/or leave before the session AND questions are finished.

All of the above are very distracting for the lecturer and your fellow students and will affect the teaching experience.

- If you need to record lectures then you should inform the lecturer at the start of the module. Such recordings are for your own personal use and should not be circulated.
- As outlined above, attendance at timetabled sessions is <u>compulsory</u> and the best learning experience comes from being there as it happens. However, if you have a period of absence, try to catch up quickly. The materials (including lecture notes) posted on **CANVAS** should help you do this.

Courses & Modules

Course syllabus information, including learning outcomes and curriculum details, and information about your modules, can be viewed via the Department web pages:
http://www.sussex.ac.uk/ei/internal/coursesandmodules/engineeringdesign/pgcourses

CANVAS is your personalised online gateway to University information. The system will help you track your marks and attendance and ensure that these are accurate. Behind the scenes, Sussex Direct helps your Academic Advisor, and Student Advisors, to support your studies.

You will find:
- Syllabus Information
- Module descriptions
- Assessment information
- Module evaluations

CANVAS is the web resource used to support every module taught at the University. Both the Engineering and Design web pages and Sussex Direct link to Canvas. It is used by Module Convenors to upload teaching materials and it also contains forums for you to discuss the module and other interactive activities.

Options

Optional modules are chosen by all students (who have them in their degree course structure) at the beginning of the Autumn term for the Autumn term and during the Autumn term for the Spring term. You will be given 'taster' lectures of Autumn term modules in the first two weeks to help you make the choice. You can also consult the Course Convenor, your Academic Advisor and Module Convenors about the options on offer before making your selection. The School Office will contact you by email regarding your module option form.

Credit System

Degree courses at Sussex are modular, with each academic year being a largely 'self-contained' unit of study. Full-time students are expected to put in a 40-hour average working week over the 12 month academic year - a grand total of <u>at least</u> 1,800 study-hours per year (full time). Sussex, like other Universities, uses a measure called "credit" which reflects this input of time. In the system used here, each postgraduate course contains 180 credits, where a credit is equivalent to 10 hours of student effort. These credits are divided amongst the different modules. The majority of modules are worth 15 credits which equates to 150 hours of study for the duration of the module. This can include time spent on many relevant learning activities such as reading background material, preparing and writing assessments, attending lectures, labs, seminars and workshops, undertaking your Masters project and revision for exams.

Timetabling

The University timetable is released in stages throughout the academic year. You can view your timetable on your Study Pages on Sussex Direct. **Please check your timetable every week and make sure you are allocated to the right modules and that you have no timetable clashes**. You must attend the teaching session you have been timetabled for (this applies to grouped activities such as labs and workshops). Any requests for changes to the teaching session you have been allocated to will be considered if possible, but please do not assume that this will be the case as in many instances sessions will already be full, leaving little scope for change.

> **The essential source of all information about examination and assessment matters is the 'Examination and Assessment Handbook' which will be issued online in the Autumn Term. Please refer to** http://www.sussex.ac.uk/adqe/standards/examsandassessment

In order to achieve a postgraduate Master's degree, you have to be awarded all 180 credits. Every module is assessed by one or more assignments, each of which is assigned a weighting. The total mark for the module is calculated by adding the weighted assignment marks. In order to be awarded the credits for that module, you have to achieve at least the pass mark of 50% for level 7 (Masters) modules. **It is important to note that a number of your modules are also subject to additional pass criteria, see the section 'Course specific regulations' for details.**

A variety of assessment methods are used to develop and test different types of knowledge, skills and aptitudes. Coursework, which is described in detail for each module in the course handbook, forms an integral part of assessment at all levels. This will include exercises as appropriate to the module and the skills that you are being expected to develop.

In addition, the assessment in your degree course will include unseen examinations, which vary in format, and include questions on both general knowledge of the subject and specific points. Postgraduate examinations in particular focus strongly on your ability to use your knowledge of the subject, rather than simply testing your memory for facts.

For all modules, sample papers or past examination papers, are available on our website.

Handing in assessed coursework ('submission')
It is important that you are quite sure about where and when work must be handed in, in order to avoid late penalties (see below). You will find instructions for coursework submission on Sussex Direct in your Assessment Deadlines & Exam Timetable. All work submitted to the Engineering & Informatics School Office must have a completed Coursework Submissions Cover Sheet attached - these are available in advance from the foyer in front of the School Office in Chichester 1, and on the School of Engineering & Informatics website: http://www.sussex.ac.uk/ei/internal/forstudents/courseworksubmission. Some assignments may be submitted electronically through CANVAS, instead of on paper. In such cases, the module lecturer will provide instructions.
All of your written submissions must be anonymous and identified only by your candidate number and degree course (not your name).

Late Submissions Policy
Late submission of assessments can have serious consequences for your academic success. You should therefore be familiar with the rules governing this. These are published each year in the 'Postgraduate Examination Handbook' linked at the head of this section.

Giving you feedback and returning work to you.
Subject to certain conditions, feedback on coursework whether in the form of comments and/or grades, should normally be communicated to you within 15 working days of the submission deadline. Work submitted to the School Office will be returned to you via the coloured filing cabinets outside the Engineering and Informatics School Office. The School Office will email you when your work is available to collect and it is your responsibility to pick it up and read any feedback comments. In some cases, such as where laboratory logbooks have been submitted, they will be returned by the tutor in a teaching group. Work that is submitted electronically will receive electronic feedback, via annotations on the scripts, on CANVAS.
Feedback on your progress may take many forms and is not confined to the mark you receive. It may include generic feedback to the class, for example via Study Direct, provision of model solutions in lectures and/or on CANVAS so that you can check your understanding, and individual comments on your work or on Sussex Direct. It is your responsibility to take note of, and integrate, all of this information. If you require additional feedback on a specific piece of work, you should contact the Module Convenor in the first instance.

Grades/Marks
You will get provisional grades/marks on your coursework as part of the feedback arrangement outlined above, and via Sussex Direct, but <u>PLEASE NOTE THAT ALL MARKS ARE PROVISIONAL UNTIL THEY ARE RATIFIED BY AN EXAM BOARD</u>. This includes the marks for exams taken in January. At the end of each academic year, after the meeting of the relevant Examination Board, details of your course results, including examination results, will be confirmed on Sussex Direct.

Information on Examination and Assessment Performance
You are encouraged to discuss your performance with your Academic Advisor, as you go through the year and you should arrange to meet with them at least once in each term to do so.

Assessment marking criteria
Assessment marking criteria for submitted work is provided in the module documentation and normally published on the module CANVAS site.

Health and Safety

You must familiarise yourself with the Health & Safety information which can be found on the School website at: http://www.sussex.ac.uk/ei/internal/general/healthsafety

Academic Misconduct

Plagiarism, Collusion, Cheating in Unseen Exams
Don't do it! We take all forms of academic misconduct very seriously and have systems in place to detect when it happens. Misconduct penalties will be applied if you are found in breach of the rules. Many students commit academic misconduct without fully understanding why they have done something wrong. To counteract this, a website has been developed to offer guidance and advice to students and staff about issues relating to collusion and plagiarism:
http://www.sussex.ac.uk/adqe/standards/academicmisconduct
It is important that you understand what constitutes collusion and plagiarism so that you can avoid them. The full University rules on academic misconduct are set out in the Examination and Assessment Regulations Handbook.

MSc project

Your MSc project is a major part of your course, contributing 60 of the 180 credits required for the degree; it will affect your final overall mark proportionately. The project starts in the Spring term but the bulk of the work is undertaken between May and the end of August. You must therefore plan to <u>remain at the University over this period</u>. Details of how to select and undertake the project are provided on the Department web pages, see: http://www.sussex.ac.uk/ei/internal/forstudents/engineeringdesign/masters/mscprojects

Industrial Placement Year

The module involves spending 40 weeks (minimum) in the employment of a company. It is incorporated as part of a (300 credit) Masters degree course to broaden your learning.
The Department offers all students the opportunity to apply for an Industrial Placement, to be undertaken as part of their degree course. Some students will already be registered on the 'with an industrial placement year' version of the course, but the opportunity is available to all, and information about placements is sent out to all students.
The placement is assessed, but does not count towards your degree classification. If you are successful in securing a placement, and pass the assessment, you will have "with Industrial Placement year" added to your degree title. For more information, see the Placements pages on the Careers and Employability Centre website at http://www.sussex.ac.uk/careers/gettingexperience/placements

Careers

Don't leave it too late. You should start thinking about your career early on, and then plan for it. You may want to think about what else you could do while you are here which will strengthen your CV and maybe give you an edge in getting the job you want.

The Careers and Employability Centre is located in The Library or go to: http://www.sussex.ac.uk/careers/

They can help you to:

- Explore career options
- Build your skills
- Develop your employability
- Gain the experience employers look for
- Construct your own webfolio to encompass all of your University experience and enhance your CV.

Opportunities specifically aimed at students in our School are also often highlighted on the School's Facebook page (linked from the website at http://www.sussex.ac.uk/ei/internal/)

Volunteering

There are many opportunities available in a wide variety of locally based organisations and community projects, as well as for the Students' Union. If you are interested in volunteering please email Project V at projectv@sussex.ac.uk   or see the Students' Union website at https://www.sussexstudent.com/volunteer/.

Being a Student Ambassador. Our current students are the University's best ambassadors and there are several central University offices which take on current students every year to be involved in paid recruitment work, both on campus and via external visits to schools and colleges. This sometimes has a particular focus on talking about university life to potential applicants from other countries. If this sounds like something you would be interested in, look out for these opportunities, which are usually advertised via student web pages.

Become a student rep or student mentor

There are many ways to help out your fellow students and enhance your own experience and CV. See the information about the student representative scheme in Section Two, or contact the Head of Department if you are interested in becoming a mentor.

Get involved in the Students' Union (USSU). There are plenty of opportunities to get involved in the clubs, societies and the political processes of USSU. Visit their website at: http://www.sussexstudent.com/

School of Engineering and Informatics based Societies:

We are an active society of students from the school of Informatics, Design and Engineering. We meet twice a month - locations announced on our Facebook page.

The society aims to enhance the experience of students from the School, both undergraduate and postgraduate by:

•Providing social opportunities for students to meet each other and learn about each other's subject areas;

•Providing opportunities to visit relevant companies, organisations and events;

•Hearing from various speakers at our social events including lecturers and industry professionals.

Get involved to take part to group projects, trips and activities on and off-campus!

This society has been set up to act as a chapter of Robogals www.robogals.org. This is a multi-national, student run organisation in which the committee, and student volunteers, aim to promote female participation in engineering by conducting fun workshops for local students.
https://en-gb.facebook.com/robogalssussex/

The aim of this society is to engage Brighton and Hove based pupils into science and engineering. The current female participation in Engineering, throughout the country, is around 11%, and Sussex's own statistics don't fare too well. We want to promote engineering as a discipline that is as much for females as males. We will do so by engaging volunteers across all disciplines to get involved in our fun workshops, which are run for local schools to engage in.

HackSussex would like to welcome you to a society about building computer based projects. Whether you like developing apps, building websites, constructing databases or just plain programming, we are the society for you. Our primary goal is to build a community of like-minded individuals who all have one thing in common, and that is creativity on the computing front. We're open to novices and experts alike and we hope to drive forward a collective knowledge base here at Sussex. https://hacksussex.co.uk/

We're generally referred to as "Hackers", but before you jump to conclusions, we're the code builders not code destroyers. We come together to construct cool programs and build interesting code for fun or with purpose and we'd like you to join us, get involved and start building both projects you like and a community you can count on.

We aim to help encourage girls in nearby schools to study STEM subjects. We organise talks from elite engineering firms such as ARUP, GE, Dyson, Rolls Royce, etc. and encouraging them to hire more Sussex students. We have sessions with PhD students every fortnight to explain difficult topics to students in a more casual, and potentially easier to understand, way. eine@societies.sussexstudent.com
General aim: improving career prospects for Engineering students and helping the community.

SECTION TWO: General advice and other information

Where to get advice and support

The School Office
The Engineering and Informatics School Office is the first point of contact for general enquiries. The office staff will probably be able to give you an answer or, if not, point you in the right direction. You will soon get to know them.

Location:	Ground Floor, Front of Chichester 1 Building, Room C1-002
Open:	Monday – Friday, 09:00 – 17:00
Tel:	01273 678048 or 01273 678195
Email:	enquiries@enginf.sussex.ac.uk

Your Academic Advisor
Your Academic Advisor is one of the teaching faculty on your course and their role is to oversee your general academic progress and development through your studies. You can make an appointment to see your Academic Advisor if you have any academic queries throughout your time at Sussex; their details (including their student consultation times) can be found on your study pages of CANVAS. Your Academic Advisor is the person you should consult about general academic progress and skills issues, whereas if you have a query more specific to a module it is better to see the Module Convenor.

Your Course Convenor
Each degree course is overseen by a Course Convenor who deals with issues concerning the whole course. Queries about your progress and any particular problems you may have should be directed initially to your Academic Advisor. However, if you wish to raise a broader issue about the whole degree course, then please discuss it with your Course Convenor. They are also here, along with your Academic Advisor, to offer advice and information on careers associated with your chosen degree.

Module Convenors
Each individual module has a member of faculty who acts as the Convenor. It is their job to ensure that everything about the module – the teaching, the module documentation, supporting teaching materials, etc. – runs smoothly. If you have a problem with a module you should contact the Module Convenor. Their details (including their student consultation times) can be found on your study pages of Sussex Direct.

Module Tutors
Modules which include practical work, problem classes or seminars are also often delivered by a team which includes Associate Tutors. These are usually research postgraduates who are paid by the Department to support the teaching. Being closer to you in age, and familiar with the types of problems you encounter, they can be a very helpful resource. You must remember that they are also studying for their PhDs, so check their consultation times, or ask when it is convenient to see them, and do not expect them to be available outside of those times.

Some other useful contacts:

Director of Student Experience
Within the School, one member of faculty has the responsibility of overseeing and co-ordinating those aspects of student life which are part of the academic life of the School in general. This is currently **Dr Paul Newbury** (contact details below). He works with Student Representatives and Heads of Department to improve communication between students and faculty. You are welcome to contact him with any concerns you have about these matters. In addition, Dr Newbury has responsibility for monitoring student attendance, but he hopes that he will not need to contact any of you about this! Although Dr Newbury has a formal role with respect to Exceptional Circumstances, he cannot talk to you about specific issues, but is happy to try to give general advice where he can. You should go to the Student Life Centre (see below) if you need to discuss specific issues.
Dr Paul Newbury
E: P.Newbury@sussex.ac.uk
T: +44 1273 872615

Director of Teaching & Learning - (to be contacted if you want to change your course)
Dr Sharon Wood
E: S.Wood@sussex.ac.uk
T: +44 1273 678857

School Administrator
Marc Williams
E: M.Williams@sussex.ac.uk
T: +44 1273 678361

Student Life Centre

The Student Life Centre provides information, advice and guidance on a broad range of subjects.
Based on the ground floor at the front of Bramber House, there are a number of ways to access the service. You can come to our information desk, which is open from 9.00 am to 5.00 pm Monday to Friday, call us on 01273 876767 or email studentlifecentre@sussex.ac.uk. You can also make an appointment through Sussex Direct by clicking on your 'Study' tab and then on Student Life and Student Life Centre. We also offer drop-in sessions at core hours every day if you ever have urgent welfare concerns. The Student Life Centre offers you a supportive space to discuss your situation and to help you consider ways forward.
We can assist with:
• personal and welfare concerns affecting study progress or well-being;
• funding, money advice and budgeting support as well as information about financial resources
• sources of help to improve academic performance – identifying obstacles to learning
• progression, intermission and withdrawal processes - discussion and support;
• referrals to other professional services on and off campus;
• drop-ins for free condoms, drug and alcohol counselling and LGBT support.

If you don't know who to talk to or who to ask – start at the Student Life Centre. Seek help early and remember that we are here for YOU.
Because we are also a proactive service you may be contacted directly by the Student Life Centre if we hear that you might be in difficulty so we can support you. This may be, for example, in response to concern from your School about your attendance, participation or engagement with your course.
For more information go to:
www.sussex.ac.uk/studentlifecentre/.

Making your voice heard

We want you to tell us about your experience of studying at the University. Here's how you can give us feedback.

Suggestion boxes
There are suggestion boxes in key locations around the School. School Office staff check the boxes weekly and forward the suggestions to an appropriate member of staff for comment and action if appropriate. Progress and final outcomes are reported back to the originator, and a selection of these are advertised next to the boxes.

School Student Representatives
The Student Representative Scheme is run jointly by the Students' Union (USSU) and the University. Student Reps provide an essential link between students, the School, the University and the Students' Union. Because Reps are themselves students, fellow students are happy to seek assistance from them when they have concerns or opinions about their education and experience at the University. Being a Student Rep gives an opportunity to learn and practice new life skills that can improve your employability.
There is a Student Rep for each level of study. Elections are held at the beginning of the Autumn Term. Full details of the scheme are online at http://www.sussexstudent.com/student-reps/ including how to become a Rep yourself and the electoral process.

Frequently Asked Questions

What do I need to provide and pay for to support my studies?
You should aim to start your studies with a basic set of equipment and materials, including notebooks and other stationery, and one or more memory sticks to back up your work.
Look at the reading lists in advance and consider whether you wish to buy any of the textbooks. Note that the Library will stock the editions specified but, for many introductory texts, older editions which can be found cheaper second-hand will still be helpful.
Many students find it useful to bring their own laptop, notebook, computer or smartphone, but we do not assume you have any of these. There are many PCs around campus accessible 24 hours a day.
All engineering students must purchase a bound logbook in which to record their experimental work. These are typically A4 size and suitable logbooks can be purchased for about £3 from the University Bookshop (in the Library building) or the Union shop.
You will need to budget for printing your work, and note that a number of assignments require two copies to be submitted. As a guide, a 12-page A4 report, printed single sided and black and white, would cost 60p at current University printing prices.
Finally, a few assignments require you to submit a CD or memory stick of data or computer programs and some final year project students choose to submit an appendix of data on CD or memory stick.

Where can I find lecture or seminar notes?
These can be found on CANVAS. To access these sites you will need to use your normal University log-in and passwords.

Where can I get a letter that confirms that I am a student?
Postgraduate students can get a 'To Whom It May Concern' (General Letter of Enrolment) letter from the Student Systems and Records Office. This letter can be used by you to confirm your status as a student of the University of Sussex to landlords, government agencies, foreign governments, or any other organisation or person requiring proof beyond that of your student card. At least **24 hours' notice** is required for this service.

Where can I get a Council Tax Exemption letter?
The Student Systems and Records Office (SSRO) also deal with Council Tax exemptions – please see further details here: www.sussex.ac.uk/ssro/enquiries. Please note the regulations vary dependent upon where you are currently living.

Where can I find my candidate number? Why do I need it?
On your Study pages on Sussex Direct: click to view your candidate number. This number is also shown on your University ID card. You will need both your candidate number and ID card for submitting work and when you sit exams.

What should I do if I lose my University ID card?
If you lose your card, or if you suspect it has been stolen, you should immediately report the loss to the Library: (library.membership@sussex.ac.uk). The Library will prevent your card being used by anyone else, but you are responsible for any borrowing undertaken up to the time when the card is reported lost.
To obtain a replacement card, which you will need to do if you want to benefit from University services, you must go to the Print Unit located in the **York House undercroft**. Access is via the York House car park, off Norwich House Road (not via York House main reception). Normal opening times for the ID card service are 9.30am-12.30pm and 2.30-4.30pm, Monday-Friday. Revised opening times apply during exam paper production periods. Lost or damaged ID cards will be charged at £10.00 per card, payable in cash or by credit/debit card. **Please note that the payment cannot be taken from your student account**. If your card has been stolen and you can provide a Crime Reference number from the police in support of this, you will not be charged for a new card.

When and where do I hand in my work?
You will find instructions for coursework submission on Sussex Direct in your Assessment Deadlines & Exam Timetable. All work submitted to the Engineering & Informatics School Office must have a cover sheet attached. You can download a cover sheet from the School's website:
http://www.sussex.ac.uk/ei/internal/forstudents/courseworksubmission or collect one from the foyer in front of the School Office.

How can I print my work?
The University provides a large number of networked printers which you can access using your log in (username and password). Details of how to do this, along with the printing charges, are given on the IT Services web pages at http://www.sussex.ac.uk/its/services/clusterrooms/clusterprinting. Please allow enough time to print your work prior to hand-in deadlines to avoid late penalties.

Where can I bind my work?
The majority of coursework does NOT need to be bound, but you do need to bind your dissertation project. Self-service facilities for comb and thermal binding are available at the Engineering & Informatics School Office. There is a small charge (£1) for the plastic covers/comb binders.
The Main University Library offers self-service comb binding and the Print Unit offers a thermal binding service (normal turnaround time for binding jobs is 24 hours). There are also a number of companies in the Brighton area that offer binding services.

Where do I collect my marked work from?
The School Office will email you when your work is available to collect. It will usually be available for collection from the feedback filing cabinets located in the foyer area in front of the Engineering & Informatics School Office. The filing cabinets are arranged by department and year of study; your feedback will be filed in candidate number order.

What happens if I submit my work late?
Work submitted after the published deadline is penalised unless you have submitted an Exceptional Circumstances claim (see below). See the previous section 'Assessment: What you need to know' (Late Submissions Policy, page 8).

What happens if I miss an assessment deadline or submit my work late for medical reasons/exceptional circumstances?
If you have exceptional circumstances you would like to be taken into account, you can submit an exceptional circumstances claim. If you would like to discuss your circumstances before submitting your claim you should visit the **Student Life Centre** and speak to a Student Advisor. Claims are submitted through your Sussex Direct pages. Detailed instructions on how to submit a claim are available on the Student Life Centre webpages at: http://www.sussex.ac.uk/studentlifecentre/circumstances.

How do I find out if my exceptional circumstances claim has been accepted?
Decisions will be fed back to you via Sussex Direct, and those decisions are also passed on to the Exam Boards which consider your progression and final classification.
If you are required to provide more evidence, you will be emailed and you will be told when/where to submit additional documentation.
If the claim is rejected, you will be informed by email and given information about the appeals process. Appeals can only be made after the exam board has met.

Where can I get an official transcript of my marks?
All finalists who have completed their degree will receive a single copy of their transcript with their undergraduate degree certificate. If you require an Academic Record before completion, please contact the Student Systems and Records Office (SSRO) at: www.sussex.ac.uk/ssro/transcripts

Who do I ask for reference letters for jobs, etc.?
Your Academic Advisor is the best person to go to for a reference. You can also use your Masters project supervisor as a referee. Requests for references are not usually refused, but it is polite to ask the proposed referee before sending in the request.

SECTION THREE: Course specific information

Course aims and outcomes

Course aims

The aim of this course is to develop academic and professional excellence both for newly qualified and practising engineers who wish to extend their professional expertise in the field of 5G mobile communications and intelligent embedded systems. It aims to enhance both theoretical knowledge and practical skills in the core subjects of the degree, while the options available cover a wide range of application areas and allow for individual specialisation to suit the interests and future career plans of the degree candidates. The core modules are **Mobile Communications**, **Internet of Things**, **Real-time Embedded Systems**, **Topics in Wireless Communications**, **Reconfigurable System on a Chip** and **Wearable Technologies**. The options available comprise: **Cybernetics and Neural Networks**, **Cryptography**, **Advanced Digital Signal Processing**, **Fibre Optic Communications**, **Satellite Space Systems** and **Digital Signal Processing Laboratory**. The MSc course also offers the opportunity and the support to go on an industrial placement year at a UK company to gain industrial experience in real work environment, ready for your future career.

Learning outcomes

These are based on the UK-SPEC AHEP 3 further learning outcomes required of all accredited Engineering Master's degrees.

Graduates of this course will thus have shown that they have:

SM1fl
A comprehensive understanding of the relevant scientific principles of the specialisation.

SM2fl
A critical awareness of current problems and/or new insights most of which is at, or informed by, the forefront of the specialisation.

SM3fl
Understanding of concepts relevant to the discipline, some from outside engineering, and the ability to evaluate them critically and to apply them effectively, including in engineering projects.

EA1fl
Ability both to apply appropriate engineering analysis methods for solving complex problems in engineering and to assess their limitations.

EA2fl
Ability to use fundamental knowledge to investigate new and emerging technologies.

EA3fl
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.

D1fl
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.

D2fl
Knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations.

D3fl
Ability to generate an innovative design for products, systems, components or processes to fulfil new needs.

ET1fl
Awareness of the need for a high level of professional and ethical conduct in engineering,

ET2fl
Awareness that engineers need to take account of the commercial and social contexts in which they operate,

ET3fl
Knowledge and understanding of management and business practices, their limitations, and how these may be applied in the context of the particular specialisation,

ET4fl
Awareness that engineering activities should promote sustainable development and ability to apply quantitative techniques where appropriate,

ET5fl
Awareness of relevant regulatory requirements governing engineering activities in the context of the particular specialisation,

ET6fl
Awareness of and ability to make general evaluations of risk issues in the context of the particular specialisation, including health & safety, environmental and commercial risk.

EP1fl
Advanced level knowledge and understanding of a wide range of engineering materials and components

EP2fl
A thorough understanding of current practice and its limitations, and some appreciation of likely new developments

EP3fl
Ability to apply engineering techniques, taking account of a range of commercial and industrial constraints

EP4fl
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.

Course specific regulations

Accreditation status of the course
We are currently seeking accreditation of this new MSc degree by the Institution of Engineering and Technology as contributing further learning towards CEng.
Once accreditation of the degree is granted, to be awarded an accredited degree the candidate will be required to achieve the following:

- A course mean of 50% or higher.

The implications of accreditation rules on condonement
The University regulations allow Progression and Assessment Boards the discretion to condone failure of a module in the final stage, under specific circumstances (Examination and Assessment Handbook section 1.3.4). However, because of Professional Body accreditation rules, our School Board cannot not apply this discretion to your course.

The implications of accreditation rules on compensation
The Engineering Council regulations require that compensation can be applied to no more than 15 credits of the degree. Since individual modules on the degree are 15 credits, this requirement mandates that only one module of the degree can be compensated if an accredited degree is to be awarded.

Threshold regulations for passing modules

Due to accrediting body requirements, modules owned by Engineering and Design are subject to threshold regulations to pass the module, in addition to the overall module pass mark (Examination and Assessment Handbook Appendix 6).

For all modules at level 7 a mark of 45% to be achieved on all module components weighted ≥30%.

Compensation will not be applied where these criteria are not met.

In practice, this applies to all modules which are assessed by both unseen examination and coursework. Where one of these components is weighted less than 30%, then the threshold requirement only applies to the other component. Three examples are given below by way of illustration:

- 102H6 Advanced Digital Signal Processing – assessed 80% by unseen exam and 20% by coursework. In addition to a minimum mark of 50% overall, a minimum mark of 45% required in the exam, no minimum in the coursework.
- 826H1 Mobile Communications - assessed 70% by unseen exam and 30% by coursework. In addition to a minimum mark of 50% overall, a minimum mark of 45% required in both the exam and in the coursework.
- 822H1 Reconfigurable system on a Chip – assessed 100% by coursework. No threshold requirement because a minimum mark of 50% overall in the coursework is required to pass the module.

Where an overall pass mark for the module has not been achieved, but the threshold requirement for one of the components (coursework or unseen exam) has been met, a resit will be given for the failed component. The resit mark will be conflated with the mark obtained for the passed component achieved at the first attempt, for a capped mark (40 for levels 4-6; 50 for level 7).

Where the pass mark for the module has been achieved, but not the threshold requirement in one of the components (coursework or unseen exam), a resit will be given for the failed component. The mark achieved on the resit will be capped and conflated with the uncapped mark achieved for the passed component achieved at the first attempt.