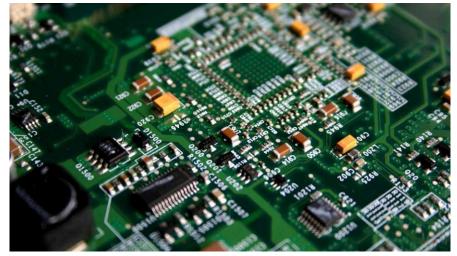


# SCHOOL OF ENGINEERING, PHYSICAL AND MATHEMATICAL SCIENCES

# DEPARTMENT OF ELECTRONIC ENGINEERING

# UNDERGRADUATE STUDENT HANDBOOK



2022/2023

#### Department of Electronic Engineering

School of Engineering, Physical and Mathematical Sciences Royal Holloway, University of London Shilling Building Egham Hill, Egham Surrey TW20 oEX Telephone +44 (0)1784 276881 Email <u>EPMS-School@rhul.ac.uk</u>

#### Disclaimer

This document was published in September 2021 and was correct at that time. The department\* reserves the right to modify any statement if necessary, make variations to the content or methods of delivery of courses of study, to discontinue modules, or merge or combine modules if such actions are reasonably considered to be necessary by the College. Every effort will be made to keep disruption to a minimum, and to give as much notice as possible.

\* Please note, the term 'department' is used to refer to 'departments', 'Centres and Schools'. Students on joint or combined degree programmes should check both departmental handbooks.

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# 1 Introduction to your department

#### 1.1 Welcome

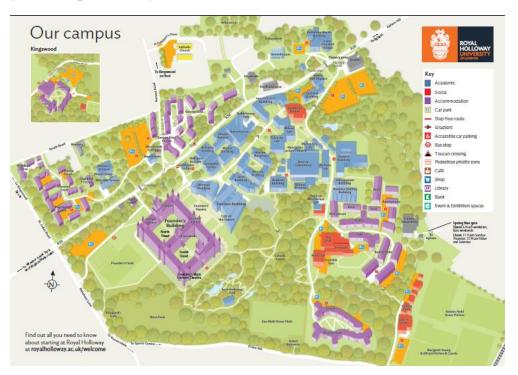
Welcome to Royal Holloway. Royal Holloway, University of London (hereafter 'the College') is one of the UK's leading research-intensive universities, with six academic schools spanning the arts and humanities, social sciences and sciences.

Welcome to the Department of Electronic Engineering. Our electronic engineering degrees are designed to equip you for an exciting and fulfilling career in tomorrow's fast moving technological world. Your chosen course offers a dynamic blend of creativity and development alongside scientific learning and product prototyping by working on topically relevant projects; this is electronic engineering in practice. Through these, you will be provided with the tools to innovate, invent and develop products for the market place, along with a host of transferable skills that could open doors to a wide range of exciting careers

If you are returning for the next stage of your degree programme, the material will be more advanced and our expectations of you are greater this year but you have already proved to us, by progressing to this stage, that you are ready to meet these rising standards. It is a year that you will be expected, with a lot of support from us, to take more independent control of your learning.

#### 1.2 How to find us: the Department of Electronic Engineering

Our technical staff and academics are located in the Shilling Building. This can be found on the College campus map below. The administration for the department is run from the School office in the Bedford Building.



#### **1.3 Map of the Egham campus**

Please note, student parking is very limited and is not available if you live in Halls or within 1.5 miles of campus. If you do live more than 1.5 miles away or have a particular reason why you need to come to campus by car, you must apply for a parking permit.

If you have a motorbike or scooter you must also register the vehicle with College. Find more information about the Parking Permit portal here.

#### 1.4 How to find us: the academic staff and Department Office

A list of staff names and contact details is also available on the Department web pages.

#### **1.4.1** School Office / Administrative Team

Our administrative team is located on the ground floor of Bedford Building, room 1-29. Along with this handbook, the School office should be your primary source of information.

School Office01784 276881Departmental EmailEPMS-School@rhul.ac.uk

#### 1.4.2 Technician's Office / Technical Team

The technician's room (1-05) can be found on the 1<sup>st</sup> floor between the Fab Lab (1-04) and the Teaching Lab (1-06) in the Shilling building. It is best accessed through the teaching lab, providing no class is in operation. You will get to know the team well as they will be around in all practical classes.

Lisa Fell	Technical Operations Manager	01784 41(4004)
Room: 2-19		
Alex Clarke	Lead Technician	01784 44(3852)
Dave Chapman	Technician	01784 27(6048)
Stefan Williams	Technician	01784- 41(4059)

#### 1.4.3 Academic Team

All academic staff are based on the 2nd floor of the Shilling Building - top of the main stairs, through the double doors, the main office door is on your right.

Dr Steve Alty	Head of Department; Module Coordinator for EE2070 & EE3060 Tel: 01784 27(6256) Email: <u>steve.alty@rhul.ac.uk</u> Room: 2-18
Mr Nuno Barreiro	PG Education Lead; Programme Director for MSc in Immersive Technology Module Coordinator for EE1010, EE4100 & EE4110 Tel: 01784 27(6636) Email: <u>nuno.barreiro@rhul.ac.uk</u> Room: academic area
Dr Matthew Bryan	Admissions Tutor; Outreach coordinator; Module Coordinator for EE1120, EE2000 & EE4010 Tel: 01784 41(4060) Email: <u>matthew.bryan@rhul.ac.uk</u> Room: academic area
Dr Clive Cheong Took	Director of UG Education; Chair Department Assessment Board; Academic Coordinator;

	<b>Module Coordinator for EE2010, EE3060 &amp; EE4080</b> Tel: 01784 27(6040) Email: <u>clive.cheongtook@rhul.ac.uk</u> Room: academic area
Dr Shyqyri Haxha	Programme Director for Computer Systems Engineering; Module Coordinator for EE2040 & EE3080 Tel: 01784 44(3183) Email: <u>shyqyri.haxha@rhul.ac.uk</u> Room: academic area
Professor David Howard	<b>Module Coordinator for EE3050</b> Tel: 01784 44(3655) Email: <u>david.howard@rhul.ac.uk</u> Room: academic area (on Sabbatical until Jan 2023)
Dr Stefanie Kuenzel	<b>Module Coordinator for EE3100 &amp; EE5302</b> Tel: 01784 27(6255) Email: <u>stefanie.kuenzel@rhul.ac.uk</u> Room: academic area (Maternity 2022-23)
Professor Wenqing Liu	Research and Knowledge Exchange Lead Module Coordinator for EE4120 Tel: 01784 27(6577) Email: <u>wenqing.liu@rhul.ac.uk</u> Room: academic area
Dr Onyema Nduka	Senior Tutor; Educational Support Officer; Staff Student Committee Academic Rep; Module Coordinator for EE1110 & EE2080 Tel: 01784 27(6813) Email: <u>onyema.nduka@rhul.ac.uk</u> Room: academic area
Dr Onyema Nduka Dr Mike Theo	Educational Support Officer; Staff Student Committee Academic Rep; Module Coordinator for EE1110 & EE2080 Tel: 01784 27(6813) Email: <u>onyema.nduka@rhul.ac.uk</u>
	Educational Support Officer; Staff Student Committee Academic Rep; Module Coordinator for EE1110 & EE2080 Tel: 01784 27(6813) Email: <u>onyema.nduka@rhul.ac.uk</u> Room: academic area Lecturer; Module coordinator for EE1000, EE1020, EE2060, &EE3100 Email: <u>mike.theo@rhul.ac.uk</u>

Email: <u>anush.yardim@rhul.ac.uk</u> Room: academic area

#### 1.5 The Department: Key Staff

Day-to-day administration of the BEng and MEng Programmes is carried out primarily by the Administration Team and the Programme Director.

Academic Staff are usually full-time and include teaching fellows, lecturers, senior lecturers, readers and professors. Staff teach and also conduct their own research.

**Module Coordinators** are responsible for the organisation, content, delivery and assessment of the modules(s) that they lead. If you have any questions relating to these, please make an appointment to see the relevant coordinator.

If you find a particular piece of work difficult, or experience health, financial, emotional or family problems that are affecting your performance and/or your ability to meet deadlines, you should notify your Personal Tutor or a member of the Administration Team as soon as possible so that they can advise you on how to minimise the impact of such problems on your performance.

#### Head of Department

The Head of Department has the ultimate responsibility for all the activities within the Department. He is responsible for dealing with any disciplinary matters, appeals or complaints that have not been successfully addressed by the appropriate procedures.

#### **UG Education Lead**

The UG Education Lead is responsible for the oversight of all the Department's undergraduate taught programmes. He ensures that close contact with our students is maintained and you are encouraged to make your concerns about the degree programme, the Department or anything else that is relevant to your studies known at the earliest opportunity, by making an appointment to see either the UG Education Lead or your Personal Tutor.

#### Academic Coordinator

The Academic Coordinator supports students registered with The Disability and Dyslexia Services Office (DDS). The Academic Coordinator liaises with Registry and DDS to support students with their studies, for example agreeing alternative assessment arrangements and can advise students on various issues including academic progression, interruption, changes of degree, withdrawal, resits and module repeats.

#### **Senior Tutor**

The Senior Tutor is a member of Academic staff who coordinates the personal tutor system, supervises allocation of tutees, develops networking, and evaluates the system. The Senior Tutor is a point of contact for students who have concerns about how the system is working, and for requests for re-allocation.

#### **Personal Tutors**

Your Personal Tutor is the first port of call for pastoral matters and will guide you through your programme of studies. Please see Personal Tutors below, for more details.

#### **Educational Support Officer**

An Educational Support Officer is a member of the Disability and Dyslexia network and is your port of call if you have an issue that affects your learning needs. If you have not already declared to the Disability and Dyslexia office a long-term condition that you may require support for you should do so at the earliest opportunity.

#### **School Administration**

The School Manager is the head of the school administration team. They are responsible for all of the day-to-day running of the administrative processes for the Department and leads the team of administrators who will be your first port of call with issues around module registrations, timetables, submissions of work, attendance etc.

#### **Technical Operations Manager**

The Technical Operations Manager is the head of the Departmental technical team. They are responsible for the day-to-day running of the laboratories and overseeing the technicians. They are also responsible for Health and Safety within the Department and all maintenance issues should be reported to them.

#### **1.6 Staff research interests**

#### Dr Steve Alty SMIEEE, MIET, SFHEA

Dr Alty studied for his BEng (Hons) in Electronic Engineering at Liverpool University and subsequently his PhD at Liverpool John Moores University. He has been a senior lecturer at King's College London and Head of Division at London South Bank University. His research interests include signal processing, machine learning and pattern recognition with applications in biomedical engineering.

#### Mr Nuno Barreiro BEng, MSc, SFHEA

Nuno Barreiro is a Senior Lecturer in Immersive Engineering in the Department of Electronic Engineering at Royal Holloway, University of London. With over 20 years of industrial experience in project management, he has led many Web and multimedia projects, both as content producer and developer, and has participated in the launching of several start-ups. Nuno is a sound specialist and the owner of an audio post-production studio in Lisbon. In that context, he has produced audio material for several international companies (e.g. McDonald's, UEFA, FIFA, Rock in Rio, ABB) in collaboration with the main publicity agencies in Portugal (e.g. Havas, Young & Rubicam, Quay Europe, FullSix). Nuno has a degree in Physics Engineering and an Applied Mathematics Master. He conducts pedagogical research related to blended learning and the use of e-tools in the classroom.

#### Dr Matthew Bryan MIEEE, MIOP

Dr Bryan has an Msci Physics (Class I) from Durham University and a Materials Science and Engineering PhD from the University of Sheffield. Before coming to Royal Holloway, he undertook post-doctoral research at the Universities of Sheffield and Exeter working in Materials Science, Cardiovascular Science and Physics departments. His research interests include magnetization dynamics, spintronics and bio-medical applications of magnetism.

#### Dr Clive Cheong Took PhD, SMIEEE

Dr Cheong received his bachelor's degree in Telecommunication Engineering from King's College London and his PhD degree in Signal Processing from Cardiff University. He was previously a lecturer at University of Surrey and a research associate at Imperial College London. His research interests include machine learning, signal processing, and Internet of Things with applications in biomedicine, smart cities, and security.

#### Dr Shyqyri Haxha CEng, Senior MIEEE, FHEA, M-OSA

Dr Haxha received the MSc and PhD degrees from City University in London in 2000 and 2004, respectively. He has also obtained industrial trainings and diplomas such as Executive MBA Cambridge Judge Business School and Mini Telecom MBAs from Telecoms academy UK. Prior to joining Royal Holloway, he was a lecture in Optics Communication in University of Kent, and Reader in Photonics in Bedfordshire University. He was a Telecommunication CEO in partnership with

Cable & Wireless Communications Ltd., a British multinational telecommunications company, and Monaco Telecom International. His research interests include Microwave photonic signal processing, designing various ultra-high-speed optics communication devices and systems for applications in telecoms, and sensors for real-time environmental and personal health monitoring applications, physical-layer security in fibre optic communications systems and Photonics for High-Speed Quantum Key Distribution (QKD).

#### Professor David Howard FREng, CEng, FIET, FIOA

Professor Howard works in the analysis and synthesis of singing, speech and music. Specific areas of interest include: digital speech and singing synthesis based on replicating virtual vocal tracts acquired from magnetic resonance imaging (Vocal Tract Organ), voice analyses for singing development and furthering understanding of singing, tuning in choral singing, speech in Parkinson's patients.

#### Dr Stefanie Kuenzel MIEEE, ACGI

Dr Kuenzel completed a MEng and PhD degree at Imperial College London, where she is a visiting researcher. She has worked with Imperial Consultants for the Norwegian power grid operator, STATNETT and National Grid UK and has conducted research for the UK-China Stablenet project. She has also been a visiting researcher at the University of Duisburg. Her research interests include HVDC transmission systems and wind generation and the impact of integration into AC systems.

#### Professor Wenqing Liu PhD York

Dr Liu has a first degree in Physics from Nanjing University and completed a PhD at the University of York. She was an EPSRC research associate at University of Cambridge and a visiting scholar of Hong Kong University. Her research interest is in the areas of condensed matter physics, nanotechnology, spintronics, advanced low-dimensional materials and systems, and synchrotron-radiation.

#### Dr Onyema S Nduka SMIEEE, MIET, MNSE, REng (COREN)

Dr Nduka received a PhD in Electrical Engineering and an MSc in Control Systems, both from Imperial College London, UK, and a BEng (Hons.) in Electrical and Electronic Engineering from the Federal University of Technology Owerri, Nigeria. He was a Postdoctoral Research Associate at Imperial College London where he worked on the Joint UK-India Clean Energy Centre project. He has also worked as Power Quality Consultant for Imperial Consultants on the UK Power Networks NIA (Network Innovation Allowance) funded project on Domestic Energy Storage and Control.

His research interests include sustainable power systems, low-carbon technology (especially electric vehicles, energy storage and renewable energy sources) operations and control, power quality data analytics and smart grid computational tool development.

#### Dr Anush Yardim CEng, FIET, MIEEE, F3EP, SFHEA

Dr Yardim holds a First Class Honours BSc in Control and Computer Engineering and a PhD in Digital Signal Processing (DSP) from The University of Westminster. She was a Principal Lecturer and Director of Industrial Liaison in the School of Electronics and Computer Science at Westminster, engaging in research in a variety of DSP application areas, including flexible sampling and communication systems, biomedical instrumentation, radar waveform and digital filter design focusing on adaptive notch filters, matched filters and fractional-sample delay filters. Her current interests centre on recovery of discrete-time signals distorted by nonlinear processes and on algorithms supporting the emerging Software Defined Radio sector.

# 2 Support and advice

#### 2.1 Support within your School

The School Helpdesk is there to help you with any questions or concerns you might have about your studies. It is situated in room 1-29, in Bedford Building. Opening hours are 10:00am to 16:00pm Monday to Friday. The Helpdesk is staffed throughout these opening hours. You can call in person during opening hours, ring 01784 276881 or email <u>EPMS-School@rhul.ac.uk</u>. Depending on your query, the Helpdesk will answer your questions then and there, put you in touch with a colleague who can help, or find out the answer and get back to you. If you wish, you may also talk to them in private and they will make sure you receive the support you require.

#### 2.2 Support within your department

Your first point of reference for advice within the Department is the Educational Support Officer. Inevitably, problems will sometimes arise that they are not qualified to deal with. The College offers a high level of student welfare support which includes a highly regarded Counselling Service, dedicated educational and disability support, as well as a wealth of student wellbeing, financial, career and other advice.

# 3 Communication

It is vitally important that you keep in touch with us and we keep in touch with you. Members of staff will often need to contact you to inform you of changes to teaching arrangements, special preparations you may have to make for a class, or meetings you might be required to attend. You will need to contact members of the Department if, for example, you are unable to attend a class, or you wish to arrange a meeting with your Personal Tutor.

#### 3.1 Email

The College provides an email address for all students free of charge and stores the address in a College email directory (the Global Address List). Your account is easily accessed, both on and off campus, via the campus-wide portal, CampusNet or direct via Outlook.com.

We will routinely email you at your College address and you should **therefore check your College email regularly** (at least daily). We will not email you at a private or commercial address. Do not ignore emails from us. We will assume you have received an email within 48 hours, excluding Saturdays and Sundays.

If you send an email to a member of staff in the department during term time you should normally receive a reply within 3-4 working days of its receipt. Please remember that there are times when members of staff are away from College at conferences or undertaking research.

Email may be used for urgent communications and by module tutors to give or confirm instructions or information related to teaching so it is important that you build into your routine that you **check your emails at least once a day**. Email communications from staff and the School Admin office should be treated as important and carefully read and actioned as appropriate.

To enable you to check your email, the College provides a number of PC Labs around Campus for student use, and you can also use your own laptop/smart phone etc. It is also important that you regularly clear your College account of unwanted messages or your in-box may become full and unable to accept messages. **Just deleting messages is not sufficient; you must clear the 'Sent** 

Items' and 'Deleted Items' folders regularly. It is your responsibility to make sure your College email account is kept in working order. If you have any problems contact the IT Service Desk.

The Electronic Engineering Department will only use the address in the College Global Address List. Students who prefer to use commercial email services are responsible for making sure that their College email is diverted to the appropriate commercial address. Detailed instructions on how to forward mail can be accessed by visiting http://help.outlook.com/ and searching for **forwarding**. This process is very easy, but you do have to maintain your College account. When you delete a forwarded message from, say, Hotmail, it will not be deleted from the Royal Holloway account.

#### 3.1.1 Guidance for emailing staff

Whilst online communication (particularly social media and instant messaging) often encourages informality, it can sometimes be difficult to know what is expected when emailing a member of staff on Departmental business. The following tips will help you compose suitable emails:

**Include a formal salutation**. When emailing a member of staff, particularly when writing to them for the first time, it is preferable to remain formal in your salutation: "Dear Dr Smith" or "Dear Jane" will be greeted more favourably than "Hey there". Whilst most staff are happy to be addressed on a first-name basis, it is always appreciated if you use their title and surname in the first instance. You will be able to gauge the formality which a member of staff expects from their reply to you. **Introduce yourself and provide a context**. It is helpful if you can remind the member of staff who you are and the context in which you are writing: "I am a first-year undergraduate student taking EE1000: Embedded systems team project 1 and have a query about one of today's readings..." is better than "I have a query about one of today's readings...".

**Be succinct and provide a descriptive subject line**. To allow a member of staff (who may well receive more than 100 emails a day) to address your query as quickly and fully as possible. Make sure that it is clearly phrased and succinct. Your email should always be accompanied by a clear and intelligible subject line (e.g., "Query regarding EE1000 reading list" or "Absence due to illness").

**Include a formal ending**. In keeping with the polite and formal tone of your email, you should sign off in an appropriate way: "Yours sincerely", "With best wishes", or "I look forward to hearing from you" are preferred to "Cheers".

**Proofread before clicking "send"**. You should always take a moment before sending your email to read it through to check for grammatical errors or spelling mistakes. As with all formal writing, you should avoid 'text speak' and other colloquialisms. If you are including an attachment, make sure this is actually attached and in a format that can be easily read (e.g. '.doc' or '.pdf').

**Sit back, relax, and be patient**. Members of staff will always endeavour to answer emails in a timely fashion, but their teaching, administrative, and research commitments will occasionally mean that an instantaneous response is impossible. You should allow between 3 and 4 working days (Monday to Friday, 9am to 5pm only) for a reply. Responses may be somewhat slower outside of term time, when members of staff are at conferences or engaged in research (in such cases, an out-of-office notification will let you know when you can expect a response to your email). Staff are not expected to deal with emails over the weekend.

You should also recognise that email is not a substitute for face-to-face meetings in the Department, and that both academic and welfare issues are best dealt with in person. You should not use staff email addresses to check routine information about modules, timetables and examinations which are published either in Moodle or on Campus Connect; nor should you email to ask questions where the answer is easily available to you, such as in this handbook.

It is impossible for staff to write detailed replies to academic queries. Again, the appropriate way to discuss these issues is in person during office hours or formal classes. Therefore, unless staff have explicitly made other arrangements, undergraduates should normally restrict the use of email to short queries and the arrangement of meetings with staff.

#### 3.2 Departmental Web Pages and Student Moodle Pages

The Departmental web pages can be found by clicking here.

The Electronic Engineering Student Information Page on Moodle can be found by clicking here.

#### 3.3 Post

Students should not use the College address for private mail. Administrative staff will alert you via email to any internal mail received by the Department.

#### 3.4 Your Contact Information

There can be occasions when the Department needs to contact you urgently by telephone or send you a letter by post. It is your responsibility to ensure that your telephone number (mobile and landline) and postal address (term-time and forwarding) are kept up to date. Further information about maintaining your contact information is available here.

You can find out about how the College processes your personal data by reading the Student Data Collection notice.

The Department/College does not disclose students' addresses and telephone numbers to anybody else (including relatives and fellow students) without the student's specific permission to do so.

#### 3.5 Notice boards

Every effort is made to post notices relating to class times etc. well in advance, on the module Moodle page but occasionally changes have to be made at short notice and in that case email will be used.

It is your responsibility to check the times and venues of all class meetings and of any requirements (e.g. essay deadlines) relating to your modules, so, if in doubt, please ask!

#### 3.6 Personal Tutors

Your Personal Tutor is a member of the Academic teaching staff, assigned to you for the duration of your degree. Their function is to monitor your progress throughout your programme of study and to help maximise your potential as a student of Electronic Engineering. It is therefore important to maintain regular contact with your Personal Tutor to discuss your progress, as well as to consider how to enhance your skills and employability. Your Personal Tutor is also responsible for writing your letters of reference (e.g., for job or postgraduate study applications).

You can make an appointment with your Personal Tutor in person, by phone, or by e-mail. Alternatively, staff have office hours, which you can check weekly on the Electronic Engineering student information page in Moodle. The names and contact details of academic staff (and other key members of the Department) are also listed on the Department web pages.

A list of Personal Tutors and their Tutees is prepared before the beginning of the academic year and displayed on the Student Information page in Moodle.

Your Personal Tutor will be introduced to you during your first few weeks at Royal Holloway when you and your Personal Tutor will have an initial meeting. They have particular responsibility for your welfare and academic development during your degree programme.

You will also see your Personal Tutor, to discuss details of academic progress and preparation for examinations. At the start of June, your Personal Tutor will discuss your overall performance and progress, following publication of your exam results.

If you experience any difficulties in keeping up with your work, or in adhering to deadlines, it is crucial that you inform your Personal Tutor or your Departmental Administrator as soon as possible.

There are many reasons why students sometimes run into difficulties of this kind: particular pieces of work may be seen as too difficult to cope with; emotional or family problems may be interfering with work; financial problems, which might, for example, result in students taking on excessively long hours in part-time jobs; accommodation problems; or an accident or ill-health may interrupt your studies.

Whatever the reason, your Personal Tutor needs to know at the very earliest opportunity in order to help you decide on the best course of action with respect to your programme of study and to help you avoid penalties for late submission of coursework.

Your Personal Tutor can offer advice about the best course of action to take with respect to your studies. Sometimes, they can also refer you to other agencies that might be able to offer support and advice, for example, the College Counselling Service. While following college regulations, personal and other information that you provide to your Personal Tutor will be treated in strictest of confidence unless you give explicit permission to divulge information to specified sources outside of the College. It is at the discretion of the Personal Tutor whether, due to the nature of the information provided, it may be shared internally. Your confidence will only be broken in cases where the Personal Tutor has good reason to believe that you are likely to cause harm to yourself or others.

Your Personal Tutor will also be involved in monitoring and reviewing your personal and employability skills and also to help you think about how these can be developed through your module choices. You are strongly encouraged to keep a written record of your modules, activities and acquired skills during your degree programme, to help you write a curriculum vitae and focus on your career choices. This process is known as Personal Development Planning and allows you, to plan for your personal education and career development. You are strongly advised to visit the Careers Centre website for further details of CV preparation and PDP.

You will also have regular scheduled group meetings with your Personal Tutor, particularly in Year 1. These are designed to provide a forum for discussing various academic issues in a small-group setting, develop presentation skills, and discuss career-path ideas and plans. Your Personal Tutor will contact you in good time about when and where these group meetings will take place and about any preparation work you will need to do.

If for any reason you wish to change your Personal Tutor, you should consult the Senior Tutor, who will treat the matter in confidence should you so wish.

#### 3.7 Questionnaires

We take student feedback very seriously and welcome your comments on the Department and all taught modules. In order to obtain your feedback on taught modules, you are asked to complete an anonymous questionnaire at the end of each module. The feedback you give us helps in making changes to modules and to increase the effectiveness of our teaching and teaching resources.

All questionnaires are seen by the Head of Department and UG Education Lead, and are analysed as part of the College's Annual Monitoring process. Constructive criticism is always welcomed and plays an important role in module development. Deserved praise is also very welcome and can make a tremendous contribution to the job satisfaction of your lecturers.

You can also make comments throughout the year about the quality of your modules and degree programmes through the Student-Staff Committee.

#### 3.8 Space

There are large silent study areas, group study areas & bookable group study rooms available in the library (some group study rooms maybe equipped with projectors, smart boards, white boards and/or flip charts).

# 4 Teaching

#### 4.1 Study weeks

Term dates for the year are as follows.

Welcome Week: Monday 19 September to Friday 23 September 2022 Autumn term: Monday 26 September to Friday 9 December 2022 Spring term: Monday 9 January to Friday 24 March 2023 Summer term: Monday 24 April to Friday 9 June 2023

You are expected to be in the UK and engaging with your studies during term time. In the case of an emergency which requires you to leave the country and/ or miss lectures/ seminars/practicals etc., you are expected to inform your department and fill in a Notification of Absence Form, see College Student Handbook for details. During the summer term, after the examination period, you are expected to attend all required academic activities organized by the department and to be available should you be required to meet with College staff for any reason.

The Department does not have reading weeks. There are two terms of teaching each of 11 weeks commencing immediately after Welcome Week in term one (Autumn).

You will be taught in a variety of ways, including lectures, laboratory sessions, workshops and tutorials. Your success at degree level is also about the work that you do outside of the formal teaching programme. You must spend a substantial amount of time reading, preparing and writing assignments. As a rough "rule of thumb" we recommend that you spend at least the equivalent of a 35 hour working week on your studies. In a normal week you will usually have between 15 and 20 hour of formal teaching (contact hours). This means that you should be spending about 15 hours a week working independently, perhaps going over lecture notes, reading around a lab experiment or exploring a topic in more depth in the library.

University-style working is not something that comes easily to everyone – it is, for example, very different from school or working for a company. In the first few weeks in the Department, and at the beginning of each new academic year, your Personal Tutor will take you carefully through the basics of what we call 'study skills'. You may feel you need more help after these initial sessions – your Personal Tutor should be your first port of call for advice, but it may be worth getting hold of any of the following, either from a bookshop or the library. Finding books in the library is, of course, an essential skill in itself:

A Northedge (2005) *The Good Study Guide*, Open University: Milton Keynes (also available as an ebook via Library Search)

A Northedge (1997) The Sciences Good Study Guide, Open University: Milton Keynes.

# 5 Degree structure

Full details about your programme of study, including, amongst others, the aims, learning outcomes to be achieved on completion, modules which make up the course and any course-specific regulations are set out in the course specification available through the Course Specification Repository.

#### Department specific information about degree structure

#### Degree Programmes covered:

BEng in Electronic Engineering BEng in Electronic Engineering with a year in Industry MEng in Electronic Engineering MEng in Electronic Engineering with a year in Industry BEng in Computer Systems Engineering BEng in Computer Systems Engineering with a year in Industry MEng in Computer Systems Engineering MEng in Computer Systems Engineering MEng in Computer Systems Engineering with a year in Industry

The degree structure is progressive (you build each year on the knowledge and skills of the previous year) and so is the weighting of each year towards your final outcome. To view the weightings click on the following BEng or MEng. After your 2<sup>nd</sup> year some modules are non-condonable and must be passed in order to complete your degree.

#### 5.1 Taught Modules

All taught module units are worth 15 or 30 credits (out of a total of 120 credits per year) and you will take between 6 and 7 modules per year. In years 1 and 2 all modules are mandatory and both years have a 30-credit team project module. In the third year for both the BEng and MEng there is an individual project worth 30 credits which is 'non-condonable', that is you must pass it and at the 1st attempt (this is part of our professional body accreditation rules). In addition, in the third year (and 4th year for MEng students) you will also have another 60 credits of mandatory modules plus you must choose 2 additional modules per term from a selection of optional modules each worth 15 credits.

#### 5.2 Module Registrations

You can only register for 120 credits' worth of modules in each academic year (this excludes modules which are being re-sat). You will have the option of changing modules up to the end of the second weeks after the start of teaching (excluding Welcome week).

Any modules that you wish to take on an extracurricular basis (that is, not counting towards your degree) must be identified at the start of the academic year.

#### 5.3 Change of Programme

You may transfer to another programme subject to the following conditions being met before the point of transfer:

(a) you must satisfy the normal conditions for admission to the new programme;

(b) you must satisfy the requirements in respect of mandatory modules and progression specified for each stage of the new programme up to the proposed point of entry;

(c) the transfer must be approved by both the department(s) responsible for teaching the new programme and that for which you are currently registered.

(d) if you are a student with Tier 4 sponsorship a transfer may not be permitted by Tier 4 Immigration rules.

(e) you may not attend a new programme of study until their transfer request has been approved.

Further information about changing programmes is available in Section 8 of the Undergraduate Regulations.

You are **only** permitted to change programmes up to the end of the second week of teaching (excluding Welcome Week), with the following exceptions:

- if the change is only in degree pathway title, which does not affect the modules taken and you are still taking the correct modules (worth 120 credits in total) as detailed in the relevant programme specification; and
- if the change does affect the modules taken and you have to pick up an extra half unit in the Spring term but you would be taking the correct modules as detailed in the relevant programme specification and would have no less than 120 credits.

# 6 Facilities

#### 6.1 Facilities and resources within your department

The Department of Electronic Engineering has a number of labs/rooms, on the ground and first floor of the Shilling Building. These are available for use by Electronic Engineering students only. We ask that all students respect these spaces and always leave them clean and tidy and as they found them.

The **Creative Thinking Room** is your space to use at any time between 9am and 5pm unless there is a scheduled class in there, which will be kept to a minimum to allow Electronic Engineering students as much use of this space as possible. This room can be used for both quiet study and for group work however students should be mindful of other users and try to keep noise to a minimum, if possible. No food or drink is allowed in the Creative Thinking room (or the labs) except water. Students are asked to look after this room and keep it looking nice. Chairs and other seating implements should be returned to their original place after use.

The Shilling building has **two teaching labs** where some practical sessions are taught. These contain sophisticated test equipment that are the sort students will come across in industry. The teaching labs are accessible to students via their college card during their class times.

The **Fab Lab** (fabrication) will be available to students during project work and will be opened as required. This room has 3D printers, PCB engravers, laser cutter, pillar drill, robotics table and general fabricating equipment.

#### 6.2 The Library

The Library is housed in the **Emily Wilding Davison Building** (often referred to as the Davison Building).

The Information Consultant for Electronic Engineering, Eva Dann, who can be contacted at <u>Eva.Dann@rhul.ac.uk</u>.

#### 6.2.1 Books & e-books

Library books tend to be heavily in demand at certain times (notably at essay deadlines and in the run-up to examinations) and to be under-used at others. Careful timing in your use of them (e.g. during the summer and Christmas Vacations, or early in each term) will pay dividends. The Library has multiple copies of many of the most frequently-used works as well as a large collection of ebooks.

Books heavily in demand may be on 24 hour loan. Please consult the module tutor in good time if there are particular works which you would like to see on short loan.

**Book suggestions**: we are always happy to consider students' recommendations for acquisitions. If you think that the Library does not possess a book potentially useful for a module you are following, or for a dissertation you are writing, please contact the module tutor or the library's Information Consultant for your subject. Be aware, however, that not all requests can be satisfied and that there is sometimes a delay between ordering and receipt that is beyond the College's control. A request may be made by the Student-Staff Committee on behalf of a larger number of students. In addition to book suggestions, the Library also offers an inter-library loan service, so if you cannot find specific items that you require such as journal articles, it is possible to order items from other libraries.

#### 6.2.2 Online resources

The Library provides access to an extensive collection of journal titles in electronic, full-text format (eJournals), eBooks, online databases and an online library of multi-media material (texts, images, audio, films and mixed-media). All of these 'e-resources' are available via an extensive suite of student PCs in the library and around the campus (all connected to printers), laptops & most mobile devices (via wi-fi), as well as from off-campus (see below).

You should get used to consulting the key online databases (such as our online collections of primary sources, research material & online databases), eBooks & online reference material and electronic journal collections relevant to your subject area. These can be accessed on-line using the **E-resources A-Z** lists & **LibrarySearch** via the Library's homepage or via the dedicated Library Subject pages.

In order to access the Library's extensive and growing collection of e-resources off campus (e.g. from home) you will need to use the College's **Campus Anywhere** (VPN) service (in some cases you may need to login direct to the e-resource). Details of how to use these services can be found from the 'help pages' linked to from the Library homepage (see above).

#### 6.2.3 Past exam papers

Past exam papers can be useful as a guide to focusing your study as well as being an essential part of revision for your exams. The library provides online versions and you can search using Library Search or from the Exam Papers service on the Library home page.

#### 6.2.4 Reading Lists Online

Most modules will have an online reading list which provides you with information on module readings and information about the availability of books in the library or direct links to the full text or other items online. You can search for reading lists for your modules on the Reading Lists Online service.

#### 6.2.5 Study space

There are large silent study areas, group study areas & bookable group study rooms available in the library (some group study rooms maybe equipped with projectors, smart boards, white boards and/or flip charts).

#### 6.2.6 Training

The Library provides a range of training sessions designed to enhance your existing library and research skills. These are available in both class-based and self-study formats. For information on available sessions and to book a place, go to the Library Subject Guide for Electronic Engineering and click on the Training tab.

#### 6.2.7 Help and Advice

If you have any questions about the Library's services and collections or need help using the information and online services provided (including one-to-one training), please phone, email, contact the library via the 'Ask a Librarian' live chat service, or call in person at the library helpdesks. If you have a query specific to your subject, the contact details for the Library's Information Consultant for your subject can be found on the dedicated Library Subject pages. Here you will also find an option to book a 1-1 appointment with your Information Consultant.

#### 6.3 Using other libraries

As a student of the University of London, you have access to the University of London Library (Senate House Library), which is situated in Senate House, Malet Street, London, WC1E 7HU (020 7862 8462). This central Library has large reference collections and facilities for borrowing and is an important resource for print and online material for the Arts & Humanities and Social Sciences (with limited Science coverage). In order to obtain a Senate House Library card you must present your College ID card at the Senate House Library and complete a short application form. The British Library, 96 Euston Road, London, NW1 2DB (020 7412 7000). Please check the BL's web pages for registration and access regulations, or contact the RHUL Library for advice.

#### 6.3.1 Other libraries

You may also be able to register as a reader at the libraries of other Colleges if you can demonstrate that you need to use their collections. Please check the respective College Library's web pages before visiting. More information about using other libraries can be found here.

## 6.4 Photocopying and printing

The departmental printers and photocopier are reserved for staff use. Copier-printers (MFDs) for students are located in the Library, the Computer Centre and many PC labs, which will allow you to make copies in either black and white or colour.

If you require copying to be done for a seminar presentation, you need to give these materials to your tutor to copy on your behalf. Please make sure that you plan ahead and give the materials to your tutor in plenty of time. Many of the PC labs are open 24 hours a day, 7 days a week. Alternatively, there are computers available for your use in the Library, and Computer Centre.

#### 6.5 Computing

#### How to find an available PC

There are ten open access PC Labs available on campus which you can use, including three in the Computer Centre. For security reasons access to these PC Labs is restricted at night and at weekends by a door entry system operated via your College card.

# 7 Assessment Information

Your work is assessed in a variety of ways throughout the degree programme. You will have a combination of formal examinations, coursework, oral presentations, laboratory sessions (lab log book) and final project reports. Some of these are formative and do not count towards your final grades and some are summative and contribute towards your final degree.

The weighting given to piece of summative coursework and examination may vary between modules due to the nature of the material being studied, and how this work is assessed. All coursework is designed to test students against a series of skills and learning outcomes. To achieve this, emphasis is put on the most appropriate form of assessment which allows students to demonstrate their full potential.

Whilst formative assessment does not count towards your module overall grade it is essential that you submit on time. Do not be tempted to regard this work as non-essential as getting the most out of these assessments, and the feedback provided to you, is vital for your development.

#### 7.1 Coursework Essays

Essay writing is an important skill which you develop during your studies, starting with tutorial support in the first year, into the second and third year through practice and feedback. Such a skill is important to develop because it allows you to consolidate your understanding of, and to thoroughly analyse, a topic through interrogation of the relevant literature. Through this process, you will ultimately argue a strong enough case to persuade your reader that the point of view you have developed is well supported by the ideas and information you present.

When writing essays, it is vital that you understand what you are being asked to write about. One of the most frequent mistakes made by students is not fully understanding the task set. You can present an excellent essay but if it does not address the key points of what is being asked, then much of your effort will be wasted. Think about the title carefully and look for the key words. If you are unsure, ask the person who set the title for clarification.

A good essay should demonstrate a series of points. Firstly, it must answer the question through presenting the key points and a balanced range of arguments. Secondly, it must demonstrate a good knowledge base, achieved through wide reading and thorough preparation. Finally, it must be well structured, well argued, and logical in its ordering of content.

#### 7.2 Presentations

For some of your modules you will be required to give a short individual and/or group presentation which will form part of a summative assessment.

Presentation skills are an important part of your development. These are designed to develop both your confidence and communication skills for speaking in public. You need to not only demonstrate your knowledge of your subject but be able to relay this to an audience.

Your future employers and funders will be looking for strong persuasive delivery of ideas that demonstrate your understanding of all aspects, from idea conception to production of the finished solution.

Advice will be offered on good presentation techniques and you will be given feedback after each presentation so you can continue to develop your skills.

#### 7.3 Reports

A report is a more highly structured document than an essay that presents information about an investigation that you have undertaken into events, organisations, situations, issues, and processes. Typically, this form of assessment is used following laboratory investigations or work placements. Importantly, the structure and convention in written reports stresses the process by which the information was gathered as much as the information itself. Hence, you need to discuss the methods used and the processes involved in gathering the information you are going to use as the basis of the report.

#### 7.4 The Individual project

In the final year of the BEng or in the third year of the MEng, you will work on your individual project.

The report that your produce for this is worth 70% of your overall module mark. In many ways this can be likened to a dissertation in that it is the culmination of your learning experience on the degree programme. It is an opportunity to study, in depth, a topic or problem that appeals to you. It is also an opportunity to demonstrate what you've learnt about posing research questions, formulating problems, designing and executing a project against a specification and justifying decisions you make and analysing or interpreting your data. Perhaps most importantly, a successful project shows that you can (1) put together a substantial and sustained literature report with appropriate graphical, numerical and bibliographic materials, and (2) put together a specification. Many potential employers see these as critical evidence about your abilities, and the result of your project is often taken into account by us when writing references for you.

#### 7.4.1 Choice of project

Project supervisors will present a list of topic outlines that could be investigated. Each student will select their 3 most favoured from the selection and rank them in order of preference. The Programme Director will then review the requests and assign each student a topic and supervisor taking into account the rankings.

#### 7.4.2 The project supervisor

The project supervisor you have been assigned will have a good understanding of the scope of your project since s/he wrote the original topic outline, and will therefore be well positioned to guide you in its execution. You will be given plenty of opportunities to meet with your project supervisor to discuss your ideas and seek advice on progress with your project work and the production of your final project report.

## 7.5 Referencing & bibliographies

A reference is the way in which you inform the reader where the information you have used in your work came from, such as a text book, academic paper, project report, patent or technical report. It also tells the reader that the information you are using was originally produced by someone else and is thereby acknowledging that person's work. For this reason, referencing all such sources of information is critical, not least because failure to do so can lead to accusations that you are trying to use someone else's information as your own, known as Plagiarism (see definition below). Do be careful if using information you have found on the internet as a source; this is normally discouraged unless you have good reason to trust the authenticity and accuracy of the information. Bear in mind that a web page can be altered by its author at any time so there is no guarantee that the information will remain the same for all time.

# All assessed coursework (including PowerPoint slide presentation), therefore, should be properly referenced and have a full bibliography at the end and include all of the sources you have cited in your work.

Having written your assignment and included a range of citations, it is important to list all of these, in numerical order of appearance in a bibliography at the end of your work. This bibliography is typically titled 'References' or 'Reference List'. This should be comprehensive and detailed enough to allow the reader to trace all items you have used. There are a range of referencing and bibliographic conventions, and you will come across both in your time here. Which you use will depend on the work being assessed, but the most important rule is to be consistent. Particular lecturers or your dissertation advisor may suggest you use certain conventions because of the particular materials you are working with.

The Department prefers the so-called **Vancouver system of referencing**. For examples of good referencing refer to Appendix 1 below.

#### 7.6 Anonymous marking and cover sheets

Coursework is wherever possible marked anonymously. When submitting your written assessments and your written examinations these will be marked using your candidate number only. For obvious reasons it is not possible to mark oral presentations or log books in this manner.

The Assignment Information Sheet, held within each module's Moodle page, will remind you how to present your work for submission. You must not write your name or student number on any written assignment.

If you are asked to submit via the Moodle Turnitin page, then Moodle will recognise you automatically when you log in and so providing your name/student number is not necessary. By securing your anonymity, you can be confident that the marking process is fair and unbiased. Please enter the Title, Candidate number, module and assignment type on the front cover of your coursework. For example: 19XXXXX, EE1020 Lab Report.

#### 7.7 Illustrations

The use of illustrations in your work is important, as these can convey a lot of information and replace text. These should be scanned and cut and pasted into the essay, avoid cutting out photocopies and sticking them onto the relevant page with glue. Colour is fine. It is important, however, to obey a few rules:

- All illustrations should be numbered consecutively and referred to in the text. This can be sequentially, e.g. Figure 1, Figure 2, etc.; or by sections, Figure 1.1, Figure 1.2, Figure 2.1, etc.
- Refer to graphs and diagrams as 'Figures'; tables as 'Tables', and Photographs as 'Plates'
- All should have a title and a source (reference from where they are obtained). If you use a web site, such as Google image, then you should acknowledge this.
- Make sure that after scanning, the quality of the image is still readable at the size you reproduce it.

Any illustrations that are used within any of your coursework must be either produced by you, copyright free, or properly referenced (see section on referencing & bibliographies above)

#### 7.8 Appendices

Appendices should be used for data (such as full tables of measurements, software listings, complete circuit diagrams, descriptions of measurement set-ups) **that does not form part of** the direct narrative of the report or essay, but is important for a full understanding by the reader of your work. Appendices are the place for such supplementary material and they are placed at the end of your report before the references. Like illustrations they should be numbered e.g. Appendix 1, Appendix 2 etc.

#### 7.9 Submission of Coursework Assignments

All coursework should be submitted by the deadline specified in its Assignment Information Sheet.

#### 7.9.1 Moodle Turnitin submissions

All written work must be submitted electronically to Moodle 'Turnitin' through the relevant module's Moodle page. For further information on how to upload and submit your work, via Turnitin, refer to the Moodle guides which can be accessed via a link in the Electronic Engineering Student Information page. New students will be issued with further guidance on this process before submitting for the first time.

You should ensure that you keep a copy of all your submissions for your own records. **Do not put your name anywhere on your coursework submission, this includes the file name.** Second, third and/or final year students should ensure they use the candidate number from the current academic year (not the previous year), and do not confuse this with your college student ID number. Candidate numbers are issued by the College, each year, early in the first term.

Please note that it is your responsibility to check that you have submitted the correct file and that the coursework was successfully uploaded to the correct module page (acknowledged by an electronic receipt emailed to you once the file is uploaded). Make sure you read and follow the online submission instructions carefully.

You are strongly advised not to leave it until the last minute to upload your coursework onto the system. **If you submit more than one copy of your assignment, then the last submission you make will be the one that will be marked.** This means if you submit before the deadline and then decide to resubmit after the deadline, the last version will be marked and the late penalty applied, unless an extension has been agreed.

Ensure you have your work backed up on a removable drive/USB stick. **Computer and/or internet** problems are not accepted as grounds for late submission or viewed as extenuating circumstance and you will be penalised.

#### 7.9.2 Non Moodle Turnitin submissions

Some coursework assignments, because of their nature, are excluded from Turnitin submission. You will be advised of any such assignments and details about how to submit these will be shown in the relevant Assignment Information Sheet, posted on the Moodle page for that module.

On submission to the Department office, coursework receipts are issued, you should retain these until the examination process is completed each year, i.e. after you receive formal notification of your performance from the College, usually in July.

#### 7.9.3 Submission deadlines

All coursework (hardcopy, electronic and Turnitin) must be submitted by the deadline specified in its Assignment Information Sheet. If you try to submit to the Turnitin box 1 minute past the deadline it will be closed and you will have to submit to the late box.

A penalty will be applied to any work submitted after the deadline (see penalties outlined below) unless an extension has been granted.

All coursework (both hard copy and electronic) must be submitted in order for students to complete the module, regardless of whether it is classed as summative or formative. Non submission may result in you being given a formal warning.

#### 7.9.4 Penalties for late submission of work

Work submitted after the published deadline will be penalised in line with Section (13), paragraph (4) of the College's Undergraduate Regulations:

If you believe that you will be unable to submit coursework on time due to illness or other acceptable causes, then you should apply for an extension to allow you to submit the work late without suffering a penalty. If you did not request an extension but then miss a deadline due to factors which have affected your ability to submit work on time, then you may submit a request for extenuating circumstances to be considered. Please note however that if you do so, you will have to provide convincing reasons why you had been unable to request an extension.

#### 7.10 Penalties for over-length work

Some pieces of coursework have a stipulated length or size. Work which is longer than the stipulated length in the assessment brief will be marked in line with Section 13, paragraph (5) of the College's <u>Undergraduate Regulations</u>:

#### Section 13 (5)

Any work (written, oral presentation, film, performance) may not be marked beyond the upper limit set.

The upper limit may be a word limit in the case of written work or a time limit in the case of assessments such as oral work, presentations, films or performance. In the case of presentations, films or performance these may be stopped once they exceed the upper time limit.

Please note that the following are excluded from the word count: candidate number, title, module title, preliminary pages, page numbers, reference list and appendices as described above.

#### 7.11 What to do if things go wrong – Extensions to deadlines

Please refer to the <u>Extensions and Extenuating Circumstances</u> Website for guidance on when and how to apply for an Extension. Page includes the current Extensions Policy and a guidance document which you should make yourself familiar with before making an application.

Please note: Not every assessment is eligible for an extension.

If you are registered with the Disabilities and Dyslexia Service you should not assume you will be granted extended deadlines. Extension are only for unforeseen circumstances that could not have been planned for.

#### 7.12 Stepped Marking

Work submitted for assessment will be graded by using a set of marks with the pattern X<sub>2</sub>, X<sub>5</sub> or X<sub>8</sub>. This means that an upper second class piece of work would be awarded 6<sub>2</sub>%, 6<sub>5</sub>% or 68%. This approach, which is called stepped marking, has been found to help in better aligning grades with marking criteria and for providing greater clarity to students about the standard of their work and how close they are to lower and upper grade boundaries. For example, a 6<sub>2</sub>% represents a low 2:1, while a 68% indicates a high 2:1.

Assessed work which is quantitative (for example, where there are only 'right or wrong' answers, numerical or multiple-choice tests or where there is a detailed mark scheme under which each question is allocated a specific number of marks) will be exempt from stepped marking.

#### 7.13 Marking Criteria

The following table shows the assessment criteria that are used by examiners in marking written individual and group work (with the exception of presentations – see below) within the Department, and show the general criteria that are used to calculate grades and marks. They are general models of the characteristics that are expected of work being awarded particular grades. When looking at them you should keep the following points in mind:

- Many pieces of work will have characteristics that fall between two or more classes. Your examiners retain the ultimate decision (academic judgement) as to the mark given to a particular piece of work, and your mark may be amended following consultation with second markers or external examiners;
- Look at the full range of assessment criteria, rather than just those that correspond to your own judgement of your abilities. When marking your work, examiners look at a range of different aspects of your work;
- These criteria give general models of assessment criteria. Your module leaders will also discuss the specific assessments for their modules, particularly where these are not standard essays;
- Your assessments will be given a percentage mark. The pass mark for levels 4, 5 & 6 is 40%, whereas the pass mark at Level 7 is 50%.

		MARKING	CRITERIA FOR WRITTEN WORK
		SCALE	
Ī	1 <sup>ST</sup>	92%, 95%,	Shows evidence of complete background reading of relevant literature.
		98%	Shows full command of the relevant concepts and facts. Completely
		"A++"	defends design criteria, specification and implementation decisions as

#### 7.13.1 Marking Criteria for Written Work

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		appropriate to the work. Provides complete analytical, critical and/or synthetic treatment of information where applicable. Communicates a complete body of scientific information. Shows exceptional consideration for the other individuals in the group.
1 <sup>st</sup>	82%, 85%, 88% "A+"	Shows evidence of significant background reading of relevant literature. Shows nearly complete command of the relevant concepts and facts. Robustly defends design criteria, specification and implementation decisions as appropriate to the work. Provides mostly complete analytical, critical and/or synthetic treatment of information where applicable. Communicates a very substantial body of scientific information. Shows significant consideration for the other individuals in the group.
1 <sup>st</sup>	72%, 75%, 78% "A"	Shows evidence of good background reading of relevant literature. Shows command of the relevant concepts and facts with some notable gaps. Defends design criteria, specification and implementation decisions as appropriate to the work. Shows an appropriate analytical, critical and/or synthetic treatment of the information where applicable. Communicates a substantial body of scientific information. Shows fluency in the use of relevant presentation techniques. Shows good consideration for the other individuals in the group.
2.1	62%, 65%, 68% "B"	Shows evidence of background reading of relevant literature with some gaps. Shows good knowledge and awareness of the relevant concepts and facts. Defends most design criteria, specification and implementation decisions as appropriate to the work. Some gaps in the analytical, critical and/or synthetic treatment of information where applicable. Effectively communicates a significant body of scientific information. Shows reasonable consideration for the other individuals of the group.
2.2	52%, 55%, 58% °C"	Shows evidence of background reading knowledge of relevant literature with gaps. Shows knowledge and awareness of the relevant concepts and facts. Defends some design criteria, specification and implementation decisions as appropriate to the work. Shows some analytical, critical and/or synthetic treatment of the information where applicable, with minor errors or omissions. Communicates a significant body of scientific information. Shows some consideration for the other individuals of the group.
3 <sup>rd</sup>	42%, 45%, 48% ``D″	Shows evidence of limited background reading of relevant literature. Shows some knowledge of the relevant concepts and facts. Gaps in design criteria, specification and implementation decisions as appropriate to the work. Contains errors or omissions in the analytical, critical and/or synthetic treatment of the information where applicable. Communicates a limited amount of scientific information. Shows limited consideration for the other individuals of the group in terms of section connections, time management, and overall consistency of the group project.
Fail	32%, 35%, 38% "E″	Shows evidence of very little background reading of relevant literature. Shows a little knowledge of the relevant concepts and facts. Significant gaps in defence of design criteria, specification and implementation decisions as appropriate to the work. Contains major errors or omissions in

		the analytical, critical and/or synthetic treatment of the information where applicable. Fails to communicate any significant scientific information. Shows little consideration for the other individuals of the group in terms of section connections, time management, and overall consistency of the group project.
Fail	22%, 25%, 28% "F"	Shows little or no awareness of relevant literature. Shows weak knowledge of the relevant concepts and facts. Majority of key aspects missing in design criteria, specification and implementation decisions as appropriate to the work. Shows little or no analytical, critical and/or synthetic treatment of the information where applicable. Fails to communicate any scientific information. Shows poor consideration for the other individuals of the group in terms of section connections, time management, and overall consistency of the group project.
Fail	0%, 2%, 5%, 8%, 12%, 15%, 18% ≌U″	No evidence of any background reading. Shows no knowledge of the relevant concepts and facts. No defence of design criteria, specification and implementation decisions as appropriate to the work. Fails to show any analytical, critical and/or synthetic treatment of the information where applicable. Fails to communicate any relevant information. Shows no consideration for the other individuals of the group in terms of section connections, time management, and overall consistency of the group project.

# 7.13.2 Marking Criteria for Oral Presentations

	MARKING SCALE	CRITERIA FOR ORAL PRESENTATIONS
1 <sup>ST</sup>	92%, 95%, 98% "A++"	Outstanding quality of slides in terms of clarity, ability to express ideas in succinct and precise manner, accurate, error free text, uncluttered slides, appropriate colour schemes, high quality diagrams, figures and tables, all fully sourced. Outstanding ability to explain the problem, the methods and concepts used and provide the precise answer within strict time limits. Outstanding ability to provide a very competent, logically structured sequence of slides, presented separately by all the team members. Extremely confident, very well-rehearsed oral presentation by team members without notes while looking at the audience. Smooth, seamless hand over between students at different sections of the presentation. Outstanding ability and willingness of team members to answer questions and thinking in their presentation.
1 <sup>st</sup>	82%, 85%, 88% "A+"	Excellent quality of slides in terms of clarity, ability to express ideas in succinct and precise manner, accurate, error free text, uncluttered slides, appropriate colour schemes, high quality diagrams, figures and tables, all sourced. Exceptional ability to explain the problem, the methods used and provide the answer within strict time limits. Excellent ability to provide a very competent, logically structured sequence of slides, presented separately by several or all the team members. Excellent, confident, very well-rehearsed oral presentation by team members without notes while looking at the audience. Smooth, confident, well-rehearsed, seamless hand over between students at different sections of the presentation. Excellent ability and willingness of team members to answer questions and explain their approach.
1 <sup>st</sup>	72%, 75%, 78% "A"	Impressive quality of slides in terms of clarity, ability to express ideas in succinct and precise manner, accurate, error free text, uncluttered slides, appropriate colour schemes, high quality diagrams, figures and tables, all sourced. Impressive ability to explain the problem, the methods used and provide the answer within strict time limits. Ability to provide a very competent, logically structured sequence of slides, presented separately be several or all the team members. Impressive, confident, very well-rehearsed oral presentation by team members without notes while looking at the audience. Smooth, confident, well-rehearsed, seamless hand over between students at different sections of the presentation. Impressive ability and willingness of team members to answer questions at the end explain their approach.
2.1	62%, 65%, 68% ``B″	Good, competent quality of slides in terms of clarity, ability to express most ideas in succinct and precise manner, accurate, mostly error free text, uncluttered slides, appropriate colour schemes, high quality diagrams, figures and tables, all sourced. Good ability to explain the problem, the methods used and provide the answer within strict time limits. Demonstrates good ability to provide a logically structured sequence of slides, presented separately be several or all the team members. Good, confident, very well- rehearsed oral presentation by team members without notes while looking at the audience.

		Smooth, confident, well-rehearsed, hand over between students at different sections of the presentation. Good ability and willingness of team members to answer questions at the end to explain their approach.
2.2	52%, 55%, 58% "C"	Reasonable quality of slides in terms of clarity, ability to express some ideas in a succinct and precise manner, mostly error free text and uncluttered slides, though some issues with diagrams, figures, tables, or sources. Some ability to explain the problem, the methods used and provide the answer within strict time limits. Some evidence of imperfections in structure of sequence of slides, presented separately be several or all the team members. Reasonably confident, not always successful, oral presentation by team members without notes while looking at the audience. Smooth, rehearsed, almost seamless hand over between students at different sections of the presentation. Reasonable ability and willingness of team members to answer questions and explain their approach.
3 <sup>rd</sup>	42%, 45%, 48% "D″	Problems evident in the quality of slides in terms of clarity, lacking ability to express ideas in a succinct and precise manner; lacking accuracy, error evident in text, cluttered slides, inappropriate colour schemes, poor quality diagrams, figures and tables, or lacking sources. Weak efforts to explain the problem, the methods used and provide the answer within strict time limits. Weak efforts to provide a competent, logically structured sequence of slides, presented separately by several or all the team members. Problematic, not well-rehearsed oral presentation by team members, occasionally using notes. Weak, not well rehearsed hand over between students at different sections of the presentation, lacking in confidence. Partial ability and willingness of team members to answer questions and explain their approach.
Fail	32%, 35%, 38% "E″	Demonstrates serious problems and deficiencies in the quality of slides in terms of lack of clarity, lacking ability to express ideas succinctly, inaccuracy, errors in text, cluttered slides, inappropriate colour schemes, poor quality diagrams, figures and tables, not sourced correctly. Demonstrates a serious inability of the team to structure the answer logically, systematically, from the first to the last concluding slide. An inability to follow the instructions issued in terms of concepts to be used, steps to be followed and topics to be examined. Serious and evident shortcomings in the ability to provide a logically structured sequence of slides, presented separately be several or all the team members. Poorly rehearsed oral presentations by team members.
Fail	22%, 25%, 28% "F"	Demonstrates multiple serious deficiencies in the quality of slides in terms of lack of clarity, lacking ability to express ideas succinctly, inaccuracy, errors in text, cluttered slides, inappropriate colour schemes, poor quality diagrams, figures and tables, not sourced correctly. Demonstrates a failure to structure the answer logically, systematically, from the first to the last concluding slide. A failure to organise and present a competent, logically structured sequence of slides, presented separately be several or all the team members. Very poor, not well- rehearsed oral presentation by team members often using notes while speaking quietly and not looking at or engaging all the audience. Very poor hand over between students at different sections of the presentation.

Fail	0%, 2%, 5%, 8%, 12%, 15%, 18% ℃″	Unacceptably poor and problematic quality of slides in terms of lack of clarity, lacking ability to express ideas succinctly, inaccuracy, errors in text, cluttered slides, inappropriate colour schemes, poor quality diagrams, figures and tables, not sourced correctly. An inadequate ability to structure the answer logically, systematically, from the first to the last concluding slide. Unable to provide a logically structured sequence of slides, presented separately by several or all the team members. Extremely poor and not rehearsed oral presentation by team members, often using notes, speaking
		quietly and not looking at or engaging the audience. Extremely poor hand over between students at different sections of the presentation.

## 7.14 Policy on the return of marked student work and feedback

The deadlines for the return of marked coursework, with feedback, will be shown in the Assignment Information Sheet for each assessment. In the event that the intended deadline cannot be met for reasons such as those listed in the College's policy document, a revised deadline will be communicated to students as soon as possible.

Feedback is an important part of your learning process as it allows us to communicate with you regarding the quality of work you are producing. You should be aware that feedback occurs in many different ways throughout the duration of a module, and your time in the Department in general. The full College policy on the return of marked student work and feedback is available here.

If there is any aspect of your feedback that you do not understand, then please contact the marker for clarification. Feedback (whether in the form of feedback sheets or via Moodle Turnitin) will be available by the return date published alongside the submission date in the Assignment Information Sheet for each assessment. You will be sent an email when work is ready to collect or view via Moodle Turnitin.

The comments on the feedback are based on the marking criteria (shown above). Different sets of marking criteria apply to different forms of work, but in general, there are a set of common criteria which the marker is looking for. You are advised to study the table above before completing any assignment, in order to understand the differences between the different marks.

Marks below 40% are regarded as fails. The significance of failing a module are detailed in the College regulations. Subject to certain conditions, the Sub board of Examiners may condone an outcome of Fail, at the first attempt, of between 35% and 39%. Full details are shown in the Undergraduate Regulation (clause 12.6).

The return of coursework feedback represents only one form of feedback. There are also other forms of feedback which you should also consider. This may take different forms, and may be 'informal' in nature, but is still important to you as a way of finding out how your work can be improved.

Such feedback includes:

- Comments and discussion with staff and demonstrators in lab and workshop classes;
- Discussion in your tutorial and seminars classes;
- Discussion with module coordinators during their office hours;
- Critique of draft project material by your allocated supervisor;
- Discussions during Personal Tutor meetings, including start of year meetings which deal with exam feedback;

- Generic/group feedback given to the whole class; and
- Moodle self or group or peer assessments.

#### 7.15 Exams

All modules studied in Term 1 will have their final exams in January. All modules studied in Term 2 (or both terms) will have their final exams in term 3.

The examination timetable is available to students on the general timetable system for Term 1 exams or the College Portal at the end of Term 2. Please ensure that you check that you are entered for the correct exams (typically the deadline for registering for exams is mid-January).

Advice on preparation for exams will be available in your lectures, sometimes in a revision session held at the end of a module. You can also ask relevant lecturers, Module Coordinators or your Personal Tutor for help. In revising for exams, a useful starting point is provided by lecture handouts as posted on the Moodle module site and your lecture notes. In particular, mock exam questions may be posted on Moodle for each module. You can also look at the previous year's exam papers which are held by the library. Do not expect, however, that the questions in an exam will be the same as those on past papers or mock exam papers. Instead, you should focus on the topics and themes covered on a given module.

Students are each given a Department approved calculator near the beginning of Year 1 for use in some of their classes and exams. Only these calculators are allowed to be used in the exams; consequently, lost calculators will need to be replaced. These can be obtained from the Electronic Engineering Office, please note that a small replacement charge may be applied.

#### 7.16 Support and exam access arrangements for students requiring support

Some students at the College may have a physical or mental impairment, chronic medical condition or a Specific Learning Difficulty (SpLD) which would count as a disability as defined by the Equality Act (2010) that is, "a physical or mental impairment which has a long-term and substantial effect on your ability to carry out normal day-to-day activities". It is for such conditions and SpLDs that the Disability and Dyslexia Service can put in place adjustments, support and exam access arrangements. Please note that a "long-term" impairment is one that has lasted or is likely to last for 12 months or more.

If you have a disability or SpLD you must register with the Disability and Dyslexia Service Office for an assessment of your needs before adjustments, support and exam access arrangements ('reasonable adjustments') can be put in place. There is a process to apply for special arrangements for your examinations – these are not automatically put in place. Disability and Dyslexia Services can discuss this process with you when you register with them. Please see section 3.9 above for further guidance about registering with the Disability and Dyslexia Services Office.

Please note that if reasonable adjustments, including exam access arrangements, have been put in place for you during the academic year, the Sub-board will not make further allowance in relation to your disability or SpLD.

#### 7.17 Academic misconduct – Plagiarism

The College regulations on academic misconduct (also known as assessment offences) can found on the Attendance and Academic Regulations page of the student intranet.

Academic misconduct includes, but is not limited to plagiarism (see below), commissioning, duplication of work, (that is, submitting work for assessment which has already been submitted for assessment for the same or another module), falsification, impersonation, deception, collusion (for example, group working would constitute collusion where the discipline or the method of assessment emphasises independent study and collective ideas are presented as uniquely those of the individual submitting the work), failure to comply with the rules governing assessment, including those set out in the 'Instructions to candidates'. The definition of each type of academic misconduct offence can be found in here.

The Regulations set out some of the types of academic misconduct in more detail, the procedures for investigation into allegations of such offences and the penalties. Students are strongly encouraged to read these Regulations and to speak with their Personal Tutors or other members of staff in their Department should they have any queries about what constitutes an academic misconduct. The College treats academic misconduct very seriously and misunderstanding about what constitutes an academic misconduct will not be accepted as an excuse. Similarly, extenuating circumstances cannot excuse academic misconduct.

#### 7.17.1 Plagiarism

'Plagiarism' means the presentation of another person's work in any quantity without adequately identifying it and citing its source in a way which is consistent with good scholarly practice in the discipline and commensurate with the level of professional conduct expected from the student. The source which is plagiarised may take any form (including words, graphs and images, musical texts, data, source code, ideas or judgements) and may exist in any published or unpublished medium, including the internet.

Plagiarism may occur in any piece of work presented by a student, including examination scripts, although standards for citation of sources may vary dependent on the method of assessment. Identifying plagiarism is a matter of expert academic judgement, based on a comparison across the student's work and on knowledge of sources, practices and expectations for professional conduct in the discipline. Therefore it is possible to determine that an offence has occurred from an assessment of the student's work alone, without reference to further evidence.

# 8 Engagement Requirements

Students in the Department of Electronic Engineering are expected to engage fully with their studies throughout the year, as measured by (where applicable):

- Attendance of face-to-face sessions above 80%
- Timely submission of summative assessment, i.e. weekly quizzes
- Moodle page log-ins i.e. if there has been no use of Moodle over the previous 7 days
- Moodle "Completion Status" above 50%.

# 9 Student Prizes

There are several prizes available to students of the Department each year. For most of these awards, it is not necessary for students to actually enter, as the winner is determined by the Department on the strength of the winner's academic achievements, creativity, progress year on year or scientific endeavour. Most prizes are awarded at the annual Sub Board of Examiners' meeting in mid-June.

# 10 Health and Safety information

The Health and Safety webpage provides general information about our health and safety policies.

The Departmental Health and Safety coordinator oversees health and safety procedures in the Department. There are rules and regulations that are specific to particular Departmental activities, and every person who is working in or visiting these areas must make sure that they are acquainted with these regulations. Ignoring such provisions means not only putting yourself at risk, but also those around you.

The Department is committed to providing a healthy and safe environment for staff and students to work in. Risk assessment is an ongoing part of Departmental activity, to ensure that all procedures, modules (including projects), laboratory experiments, fabrication laboratory work and field trips are implemented with the minimum risk to all concerned.

**Safety is everyone's responsibility.** Any health and safety concerns should be brought to the attention of the Department Technical Operations Manager or the college Health and Safety office.

You are issued with a Health and Safety Handbook in the first week of the each new academic year and a copy will also be posted on the Student Information page in Moodle. It is important to read this even if you are a returning student. There are significant changes this year with the department moving into the new Shilling building.

#### 10.1 Emergencies

First Aid. First aid kits are situated in the Shilling Building as follows:-

- **main office space**, 2nd Floor, kitchenette area;
- research room, 2nd Floor, kitchen;
- 1st Year teaching Lab (1-06), 1st Floor;
- Fab Lab (1-04), 1st Floor; and
- 2nd Year teaching lab (0-05), ground Floor.

There is an Automatic Emergency Defibrillator (AED) by the main entrance to the Shilling Building.

If you are in any other College building you will find signs up telling you where to find the nearest first aider.

If you suffer an injury, or find someone injured, call a qualified First Aider.

A list of First Aiders is posted:

- on the door of each laboratory leading to a corridor;
- on the door of each lecture room leading to a corridor;
- in the Departmental Office; and
- on the Electronic Engineering Student Information page.

If you cannot contact one of the First Aiders you should contact security on 01784 44 **3063** or emergency **444** (internal).

The following staff members act as Fire Marshals:

Lisa Fell	Shilling Admin Office	01784 41 (4004)
Alex Clarke	<b>Technicians Office</b>	01784 44(3852)
Matthew Lock	e Technicians Office	01784 27(6048)

#### You are strongly advised to enter all the numbers shown above into your mobile phone.

#### **10.2** Departmental Smoking Policy

In line with British Law, there is no smoking allowed in any of the Electronic Engineering Department buildings. Smoking is only allowed in designated areas which are a minimum of 5 meters away from the building. It is the responsibility of the smoker to ensure that smoke does not enter any building.

For more information on the University's smoking policy and procedure, click here.

#### 10.3 Children and young persons on campus

Children and young persons are only allowed on the campus if accompanied by a responsible adult and must remain with the adult at all times during their stay on the premises.

#### 10.4 New and expectant mothers

New and expectant mothers are advised to consult the Department Manager at the earliest opportunity. Once written notification has been received by the Department Manager, a pregnancy risk assessment will be performed. Advice on health and safety can be obtained from the Student Wellbeing team.

#### 10.5 Security

If you need to contact Security at any time, the main office can be found in the Founders building, opposite the main reception.

From an internal landline, security can be contacted on Ext. 3063 or **01784 44(3063)** from a mobile phone.

In case of an emergency Security can be contacted on Ext 444 from an internal landline or **01784 44(3888)**.

#### You are strongly advised to enter these numbers into your mobile phones

#### 10.6 Code of practice on harassment for students

The College is committed to upholding the dignity of the individual and recognises that harassment can be a source of great stress to an individual. Personal harassment can seriously harm working, learning and social conditions and will be regarded and treated seriously. This could include grounds for disciplinary action, and possibly the termination of registration as a student.

The College's Code of Practice on personal harassment for students should be read in conjunction with the Student Disciplinary regulations and the Complaints procedure can also be found here.

#### 10.7Lone working policy and procedures

The College has a 'Lone Working Policy and Procedure' that can be found here.

Lone working is defined as working during either normal working hours at an isolated location within the normal workplace or when working outside of normal hours. The Department and the type of work conducted by students is classified as low risk activity and as such the following advice is relevant.

Any health and safety concerns should be brought to the attention of the Departmental Health and Safety Coordinator or the College Health and Safety Office.

It is likely that most activities will take place on College premises. However, the principles contained in the above section will apply to students undertaking duties off campus.

#### 10.8 Department Code of Conduct

During registration students will be asked to read and sign the following Code of Conduct Charter. The Charter outlines what is expected of students while studying with the Department, and what students can expect in return from the Department.

Please see the following page.

#### Department of Electronic Engineering Code of Conduct

The Department of Electronic Engineering at Royal Holloway, University of London prides itself on being one the newest electronic engineering research and teaching departments in the UK, with highly talented academic staff at the forefront of their subjects. We pride ourselves on having a positive approach to ingenious thinking in a supportive and creative environment.

Each student at Royal Holloway is expected to follow university guidelines and regulations as outlined in the Student Handbook and College Regulations. Additional to these, the Department issues the following charter to all their students outlining the basic principles of academic life in the Department. This charter has been set to outline what is expected from students and what they can expect from the Department.

Should you have any issues, or fail to understand any of the points, please arrange to discuss these with your personal tutor.

#### What you can expect from the Department of Electronic Engineering:

1. Staff in the Department are committed to providing you with a high quality teaching experience, supported with cutting–edge material.

2. Academic staff will maintain good contact with all students through teaching, regular office hours, and email. Staff will display their scheduled office hours on the Electronic Engineering Student Information page. Aside from exceptional circumstances or unless specified, staff will respond to e-mails within 3 working days.

3. Each student within the Department will be assigned a personal tutor. Personal tutors will support students in personal, academic and career related development, including basic pastoral and welfare issues.

4. The Department will provide additional academic support where available. Some modules may have revision sessions before the end of year examinations.

5. The Department will adhere to a maximum 3 week turnaround for marking all assessed and nonassessed submissions, providing students with sound and constructive feedback.

6. The Department will provide students with extra-curricular opportunities. You can become a student ambassador or a student representative for the Department, and all first year students will have their subscription to the Electronic Engineering Society paid by the Department.

7. We will regularly host social events, along with seminars and talks from industry and academic experts, to provide students with opportunities to network within the Department.

8. Our administrative team will support student activities and support students with any issues and queries in a timely and responsive manner.

#### What the Department expects from you:

1. Students must not give false or misleading information regarding any academic matter.

2. As far as reasonably possible, students must attend all parts of the modules, examinations and must adhere to specific assignment deadlines. If a student is unable to attend a part of their module or is unable to meet the assessment deadline, s/he must inform the Department using the procedure outlined in this Handbook. Students must not falsify reasons for why they did not attend a part of their module, adhere to a deadline or attend an examination. Nor must they falsify attendance records/register for themselves or for anyone else, or have another falsify records for them.

3. Students must keep themselves fully aware of the details of submitting any work to the Department, including deadlines, location, format (i.e. online, printed, memory stick etc.), stipulated length or size, structure and the correct submission type. These will be specified to students within the Assignment Information Sheet.

4. All submitted work for any module has to be entirely the students own work. Students must not copy directly from another student or source for any work submitted to the Department. Students must not purchase essays from on-line or other sources and attempt to pass them off as their own work. Students must not use unauthorised material or unauthorised assistance during an examination, in-class test or of any academic work which is submitted to the Department. All written/submitted work that paraphrases or copies wholly or partially, any written, printed material from books, journals, essays, newspapers and electronic sources **must be properly cited** regardless of whether the material in question is copyrighted or not. This includes ideas, illustrations, synopses, and articles.

5. Students must not turn in the same work for two or more different modules that they are taking or from a previous year or from a programme they have previously taken either at the College or elsewhere.

6. Students must adhere to assessment regulations and listen to invigilators or supervisors during any and all assessments. Students must not provide false data/information in any of their assessments/examinations.

7. Students must not falsify evidence during any academic investigation, appeal or hearing. Nor should students intimidate, influence or coerce someone else in connection with any investigations, appeals or hearings.

8. Students must not use Departmental and university resources in a dishonest/unauthorised manner. This includes selling or giving another student unauthorised copies of any examination/assessment.

9. Students must check their RHUL email regularly (daily) and use only their RHUL address when emailing the Department to ensure privacy.

10. Students must honour appointments made with academics or notify them in a timely manner if they cannot make an appointment.

11. Students should exert themselves in their studies and try their best to engage with colleagues and the student community and be open, friendly and helpful to other students.