Programme Information		
Programme Title	Programme Code	HECoS Code
MEng Electronic and Information Engineering	GH56	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MEng Electronic and Information Engineering – Technical[1]	4 years	Full-Time	Annually in October	250-272.5	500-545
BEng (Ordinary) - HG65O	N/A	N/A	N/A	150	300
DipHE - HG65D	N/A	N/A	N/A	120	240
CertHE – HG65C	N/A	N/A	N/A	60	120

[1] *The Certificate of Higher Education (CertHE) in Electrical and Information Engineering, Diploma of Higher Education (DipHE) in Electrical and Information Engineering, Ordinary Bachelor's Degree (BEng [Ordinary]) in Electrical and Information Engineering are exit awards and are not available for entry. The exit awards are not accredited.*

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Engineering
Teaching Institution	Imperial College London	Department	Electrical and Electronic Engineering
Associateship	City and Guilds of London Institute (ACGI)	Main Location(s) of Study	South Kensington
External Reference			
Relevant QAA Benchmark Statement(s) and/or other external reference points		Master's award in Electronic and Information Engineering	
FHEQ Level		Level 7	
EHEA Level		2nd Cycle	
External Accreditor(s) (if applicable)			
External Accreditor 1:	Institution of Engineering and Technology		
Accreditation received:	2025	Accreditation renewal:	2029
Collaborative Provision			
Collaborative partner	Collaboration type	Agreement effective date	Agreement expiry date

N/A	N/A	N/A	N/A

Specification Details	
Programme Lead	Director of Undergraduate Studies
Student cohorts covered by specification	2025-26 entry
Date of introduction of programme	2019
Date of programme specification/revision	January 2025

Programme Overview

ABOUT THE DEPARTMENT

The Department's main objectives are to deliver high quality teaching and conduct internationally leading research. The Department carries out research across a wide range of topics, and targets both fundamental advances and practical applications of science and technology. The quality and impact of our research are demonstrated by our many highly cited publications, the personal recognition of our researchers through awards and honours, and the commercial adoption of our results and innovations. Our research also feeds into our teaching, especially in the 4th and final year where members of staff bring their research into the classroom and devise exercises in line with research expectations. We see educating the next generation of engineers as a key role, and our graduates are highly valued by industry and commerce around the world. Our undergraduate degrees are aligned to our research strengths, and we are proud of the depth of analytical treatment and the specialised optional subjects we offer within our degree programmes.

Electronic and Information Engineering is considered interdisciplinary in character because Electronic and Information Engineers work in a wide range of areas including robotics, machine learning, communication systems and networking. Design and analysis of systems is at the core of this programme and you will be offered multiple opportunities to develop your skills in this area. The programme offers technical rigour and depth in a wide range of modern engineering topics.

Further information about the Department and our courses is available on our website: www.imperial.ac.uk/electrical-engineering/about/.

ABOUT THE MEng PROGRAMME

The Department offers both a three-year BEng programme and four-year integrated Master's MEng programme. Both degree programmes involve substantial group and individual project work. The MEng programme has the added benefit of an industrial placement or consultancy group project. In the final year of your programme you will be able to choose from a range of Master's level elective modules and gain further exposure to cutting-edge research problems in a wide range of information engineering topics.

The goal of this programme is to prepare you to become a high quality graduate who will innovate beyond current practice, whether in the electronic/electrical industry, information technology, research, or financial organisations. The EIE stream helps you understand the entire stack of modern networked computers, from the design and architecture of the CPU in a smart-phone, to the information theory and wireless protocols connecting it to the internet, and the operating systems and databases providing back-end support in the cloud.

This programme specification describes the academic path given in figure 1, below.

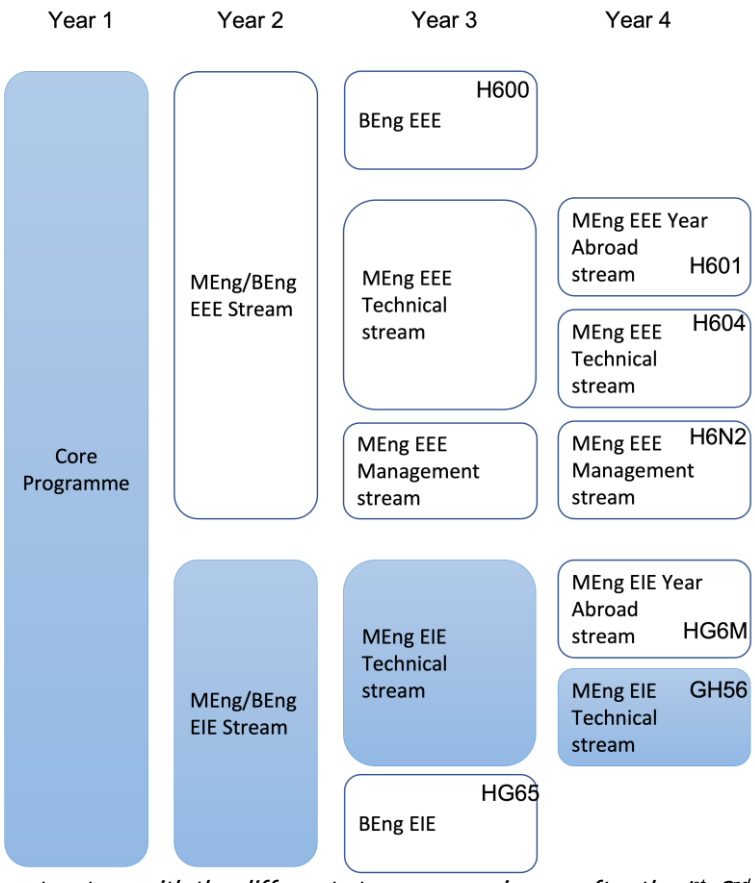

Figure 1: Programme structure with the different streams opening up after the 1st, 2nd and 3rd year. The colour filled boxes relate to this programme specification. For the other streams, please refer to the appropriate programme specification.

After the first year you will have the option to transfer to the Electrical and Electronic Engineering (EEE) stream. Such a change of stream will be allowed under certain conditions as described in the relevant section. EEE focuses more on the physics behind electrical engineering whilst EIE is oriented towards information processing. This document describes the EIE stream.

In the first year you will be taught the fundamental principles in engineering. In the second year you will specialise more in information processing and computer engineering related fundamentals. In third and fourth year, you will be able to take advanced specialised topics, which will give you the most direct route to a specialist professional engineering career or a career in research and development. You will also have access to some modules offered by other engineering departments and some non-engineering topics such as management and entrepreneurship as well as languages and other modules offered by the Business School and Imperial Horizons.

In the third year, the MEng degree gives you the opportunity to be involved in either an industry-led consultancy project or an industrial placement. These modules allow you to develop your professional engineering and transferable skills outside a purely academic setting.

In the fourth year of the accredited MEng programme, you will be required to complete an Individual Project.

TRANSFERRING BETWEEN PROGRAMMES
All stream changes should be discussed with your personal tutor or the senior tutor and must be approved by the Director of Undergraduate Studies.

All Programmes
All programmes within the department have a common first year. It is therefore possible to transfer between the EIE and EEE streams up until the end of your first year. The approval of such transfer is based on your performance on the related modules of the stream that you want to transfer to and an interview. To transfer from EEE to EIE you will have to perform well in ELEC40003 Digital Electronics and Computer Architecture, and ELEC40004 Programming for Engineers. To transfer from EIE to EEE you will have to perform well in ELEC40002

Analysis and Design of Circuits and ELEC40009 Devices, Power and Communications. You may also be invited to attend an interview that will assess your interest in the degree topic area and your motivation for wanting to change degree streams.

BEng to MEng
Year two is common between the EIE MEng and EIE BEng. You can choose at any point up until end of year two to change between MEng and BEng. If you hold a Student Route visa you will need to contact the International Office before making any stream changes at this stage.-

To progress to year four of the MEng, you must have achieved a minimum of 50% overall (weighted average of years 1 to 3).

A transfer to the BEng stream will remove your opportunity to be involved in an industry-related placement within the degree structure.

ABOUT OUR TEACHING
We use a variety of teaching methods that include large group lecture sessions, workshops, small group exercise sessions, as well as tutorial sessions with a small number of students. Laboratory work is done in pairs with a partner from your year group. For group projects you will work in a larger team of 6-7 people.

Your learning will be supported by online tools such as blackboard for self-assessment and for-credit tests. Members of staff are experts in their field and bring their research and industrial expertise into the classrooms, especially in years 3 and 4.

Graduate and Undergraduate Teaching Assistants (GTAs and UTAs) are involved in our tutor schemes, small group teaching and laboratory teaching and will help you understand the concepts.
The MEng programme has been designed based upon a number of key principles:

- **Competence in the fundamental principles of mathematics and electrical/electronic/ information engineering**: You will develop a firm grasp of the fundamental concepts and principles, be able to model complex systems analytically, and analyse and optimise these models.
- **Excellence in computer engineering:** You will acquire a high level of competence in both programming and in using the latest computing technologies, and be able to start creating the next generation of languages and hardware.
- **Pro-active learning**: You will learn how to learn by yourself and acquire the skill and discipline of lifelong learning.
- **Design Proficiency**: You will develop your ability to incorporate concepts into design of new products or processes, to provide innovations.
  Development of professional and transferrable skills: You will learn how to work in groups, develop your ability to communicate scientific/engineering ideas orally or in written form, and to develop general problem-solving skills.
- **Industrial perspectives**: You will be able to participate in an industrial based project via a six-month industrial placement, or a term long industry-led group consultancy project at the end of your third year. You will be encouraged to find industrial experience where possible.
- **Flexibility of provision**: We aim to provide you with a wide variety of options in the third and fourth years of the programme in order to allow you to specialise in specific areas of electronic/computer engineering.

Benefits of accreditation
This programme is professionally accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council for the purposes of fully meeting the academic requirements for registration as a Chartered Engineer.

Achieving a professionally accredited integrated Master's degree (MEng) means that you have satisfied the first step to becoming a Chartered Engineer (CEng) in your chosen field by satisfying the educational requirements of professional registration. To gain Chartered status, you will need to demonstrate your ability to meet additional graduate level competences described in the Engineering Council's UK-SPEC

A CEng is a highly respected qualification earned by professionals working in engineering, which can lead to higher earning potential and better career prospects.

Professional registration also brings international recognition of your qualification, which is particularly useful when preparing for a career abroad.

Learning Outcomes

At the end of the four year MEng programme you will be able to:

Science and Mathematics

1. Explain and derive the fundamental concepts, mathematical abstractions, physical principles and applied techniques that underpin electronic and computer engineering, while being able to extrapolate your insight into related disciplines.
2. Solve familiar and unfamiliar problems using established methodologies as well as deriving, adapting and applying new methodologies that support innovation towards future developments in specialised fields.

Engineering Analysis

3. Apply analytic principles and techniques, software engineering skills, as well as commercial software packages, to critically analyse, design, evaluate, simulate, and implement engineering systems incorporating both hardware and software, justifying approaches and recommending alternative ones in line with design criteria.
4. Interpret abstraction, critically evaluate related literature and justify the use of computational techniques, and be able to identify appropriate components to automate and optimise systems and processes.

Design

5. Communicate, interact and work with peers and professionals from other disciplines, as well as non-specialist stakeholders, making decisions in complex and unpredictable situations, and manage work in terms of project plans, deliverables and costs.
6. Generate creative and innovative design for products, systems, components or processes to fulfil new needs.

Economic, legal, social, ethical and environmental context

7. Explain the role of business processes in engineering, including the commercial, societal and legal framework within which industry operates and advise stakeholders on their implications.
8. Incorporate ethical, sustainability and environmental issues into your professional conduct, and integrate these into your engineering practice. Consider the security and risk aspects of a system, and recognise the benefits of EDI.

Engineering Practice

9. Manage projects in both interdisciplinary and multidisciplinary environments by using relevant practical and laboratory skills on your own or as a member or leader in a team.
10. Design relevant systems, components or processes that meet specified industrial requirements and constraints while keeping within public health and safety, cultural, societal, and environmental constraints. Work proactively with others to formulate solutions to the implications of ethical dilemmas. Recognise the benefits of lifelong learning and plan your professional development.

Additional Learning Outcome specifically related to the Industrial Placement:
The industrial placement will enable you to formulate the need for rationalised compromises required to deliver reliable solutions within the allocated timeframe and cost in an industrial context.

Exit awards are only granted at the discretion of the Board of Examiners in line with Imperial Regulations. None of the exit awards are accredited. Should you wish to pursue recognition as a professional engineer after leaving without an accredited degree, a full review of your academic history and possibly further study will be necessary to support your application for professional registration.

On completion of Year Three (BEng Electronic and Information Engineering exit award) you will be able to:

Science and Mathematics

1. Explain the fundamental concepts, mathematical abstractions, physical principles and applied techniques that underpin electronic and computer engineering, while having an insight into related disciplines.
2. Solve familiar and unfamiliar problems using established methodologies as well as deriving, adapting and applying new ones with minimal guidance.

Engineering Analysis

3. Apply analytic principles and techniques, software engineering skills, as well as commercial software packages, to critically analyse, design, implement and simulate engineering systems incorporating both hardware and software, justifying approaches and recommending alternative ones in line with

design criteria.
4. Interpret abstraction and justify the use of computational techniques, and be able to identify appropriate components to automate and optimise systems and processes.

Design

5. Communicate, interact and work with peers and professionals from other disciplines, as well as non-specialist stakeholders, making decisions in complex situations, and manage work in terms of project plans, deliverables and costs.

Economic, legal, social, ethical and environmental context

6. Explain the role of business processes in engineering, including the commercial, societal and legal framework within which industry operates and advise stakeholders on their implications.
7. Incorporate ethical, sustainability and environmental issues into your professional conduct, and integrate these into your engineering practice.

Engineering Practice

8. Manage projects in both interdisciplinary and multidisciplinary environments by using relevant practical and laboratory skills on your own or as a member in a team.
9. Design relevant systems, components or processes that meet specified industrial requirements and constraints while keeping within public health and safety, cultural, societal, and environmental constraints.

On completion of Year Two (Diploma in Higher Education exit award) you will be able to:

Science and Mathematics

1. Explain the fundamental concepts, mathematical, physical principles and techniques that underpin electronic and computer engineering.
2. Solve familiar problems using established methodologies as well as deriving, adapting and applying new ones with guidance.

Engineering Analysis

3. Apply software engineering skills to analyse, design, implement and simulate electronic engineering systems, justifying approaches in line with design criteria.

Design

4. Communicate, interact and work with peers and professionals from other disciplines and manage work in terms of project plans, deliverables and costs.

Economic, legal, social, ethical and environmental context

5. Explain the role of business processes in engineering, including the commercial, societal and legal framework within which industry operates and advise stakeholders on their implications.
6. Have an insight into ethical, sustainability and environmental issues related to your professional conduct.

Engineering Practice

7. Manage projects by using relevant practical and laboratory skills on your own or as a member in a team.

On completion of Year One (Certificate in Higher Education exit award) you will be able to:

Science and Mathematics

1. Describe and recall the fundamental concepts, mathematical, physical principles and techniques that underpin electronic and information engineering.
2. Solve familiar problems using established methodologies with guidance.

Engineering Analysis

3. Apply analytic principles and techniques, software engineering skills to analyse and simulate electronic engineering systems, recognising the approaches needed in line with design criteria.

Design

4. Communicate, interact and work with peers and manage work in terms of project plans, deliverables and costs.

Economic, legal, social, ethical and environmental context

5. Recognise the need for a commercial, societal and legal framework for business processes in engineering.
6. Have an insight into ethical, sustainability and environmental issues related to your professional conduct.

Engineering Practice

7. Manage projects by using relevant practical and laboratory skills on your own or as a member in a team.

The Imperial Graduate Attributes are a set of core competencies that we expect students to achieve through completion of any Imperial degree programme. The Graduate Attributes are available at: https://www.imperial.ac.uk/about/education/our-graduates/

Entry Requirements	
Academic Requirement	Our minimum entry standard for entry is A*A*A or A*AAA overall, to include A* in Mathematics A*/A in Physics (A* is required if applying with three A levels) A in a third and/or fourth subject Recommended subjects: Further mathematics (strongly encouraged), Chemistry, Computer Science, Computing, Design and Technology, Electronics. Students taking English exam board science A levels will be required to pass the practical endorsement. For non A-level students, a comparable qualification recognised by Imperial– e.g. for International Baccalaureate: a minimum grade of 40 overall with 7 in both Mathematics and Physics at higher level. For further information on entry requirements, please go to www.imperial.ac.uk/study/apply/undergraduate/entry-requirements/
Non-academic Requirements	NA
English Language Requirement	Higher requirement Please check for other Accepted English Qualifications
Admissions Test/Interview	Admissions Tutors consider all the evidence available during our rigorous selection process and Imperial flags key information providing assessors with a more complete picture of the educational and social circumstances relevant to the applicant. Some applicants may be set lower offers and some more challenging ones. All applicants are required to take the Engineering and Science Admissions Test (ESAT) in either October or January. The Department will make a thorough review of your application along with the test result. We look at your predicted grades, personal statement and school reference. After the review we will decide whether to interview you or not. Interviews are held online in early December and mid-February.

The programme's competency standards documents can be found at: www.imperial.ac.uk/electrical-engineering/study/undergraduate/

Learning & Teaching Approach

Teaching Delivery Methods

Your course material will be delivered in different ways, including large cohort lectures in lecture theatres, team-based-learning in smaller groups, flipped classroom approaches, workshops, video recordings for online learning and laboratory work in software, hardware and embedded systems. In addition, tutorials in groups of 3-4 students will support you in analysing your progress and allow you to discuss problems in a more personal environment. Work in the laboratories is done in small teams and will teach you experimental skills, data management and how to work with other people. Team-based-learning will focus mainly on developing analytical skills in solving both well defined as well as open-ended engineering problems. You will be expected to carry out preparation work

before lectures and laboratories. Revision of material is a continuous process and keeping up with new contents is key to understanding and remembering engineering concepts and how they link together.

Design and build projects

The aim of the laboratories is to add a practical aspect to the taught modules, to teach you experimental skills, including the safe use of equipment and how to choose components and encourages you to develop robust data recording and analysis skills. Design and build projects aim to bring all the taught concepts and the hard- and software skills together in order to deal with more complex systems that solve an engineering problem supported by a team of 5-8 students. These projects will also allow you to improve your team working skills together with obtaining expertise in management of time and cost. The design and build project will be mainly student-driven in order to allow you liberty in personal development and self-paced assimilation of contents.

There are group projects in the first and second years. In the third year you will have a choice between a group project as a consultancy team for an industry defined problem or an individual industrial placement. In your fourth year you showcase your imagination, originality and independent engineering expertise in a substantial final year project of your choice.

Professional and transferable skills

Throughout your programme, you will also attend workshops designed to develop transferable skills (e.g. career development, team building, ethical behaviour, and report-writing and presentation skills). These will be complemented by options to develop individual interdisciplinary interests by choosing electives in humanities, business and management studies and other STEM subjects from across Imperial. Professional Engineering is a topic that is integrated in all projects (group, individual and industrial) and is assessed by a Professional Portfolio that needs to be completed in the fourth year.

Independent learning

Independent study is an important part of higher education and we expect you to invest at least two to three hours of independent study for every contact hour. E-learning tools, books in the library and online digital information will support independent study. You are advised to read widely around the topic to expand your knowledge. The aim of independent study is not only to assimilate taught material but also to become an independent learner who, after graduation, can take responsibility for your future learning and development.

Industrial Experience

In the third year of your studies, you will have the opportunity to undertake a 6-month industrial placement, or to work on campus on an Industry-led group project for three months. The industrial placement runs between April to September and provides you with the opportunity to work within a company to apply your knowledge to real-world problems or projects. The industry-led group project runs from April till end of June, and you will have the opportunity to work on a project defined by our industrial partners.

Overall Workload

Your overall workload consists of face-to-face sessions and independent learning. While your actual contact hours may vary according to the optional modules you choose to study, the following gives an indication of how much time you will need to allocate to different activities at each level of the programme. At Imperial, each ECTS credit equates to an expected total study time of 25 hours. Of course, assimilation of new topics is different for everyone and therefore some students will need more or less time to achieve the same Learning Outcomes.

<u>Year 1 and 2:</u>

The ECTS allocated to each module are defined in the programme structure. Normally for 5 ECTS you will have 20 hours of lectures, 10 hours of team based learning, and 20 hours of laboratories. For every hour of face-to-face support you will be expected to spend two to three hours in self-study supported by videos, online self-assessment, course notes and lecture handouts. This estimation includes tests and exam preparation time. For the laboratory, preparation/revision time will be less but you are expected to spend an hour of preparation for each hour of lab. Preparation for labs will include engaging in the virtual labs, watching the support videos in your own time and reading around the topic. The Design Projects run in the summer term. Timetabled hours will be allocated to Engineering Practice within the project module. Access to laboratories will be timetabled. You will receive help to get organised and how to manage the time spent on the project with the members of your team. A member of staff will follow and guide your progress but will not micromanage. We estimate that you will have to spend about 200 hrs on the project. The ratio of self-study to face-to-face time will increase from year 1 to year 4 since we expect you to develop towards independent learning.

Year 3 and 4:
Normally, EEE modules have 5 ECTS with approximately 20 hours of face-to-face lecture time.

Exam assessed modules usually have extra allocated hours for revision. Video recordings support a move to a more self-learning style. Support outside the timetable is available upon request and is delivered by both the academic lead as well as the Graduate Teaching Assistants (GTAs). You are expected to spend a significant amount of time in self-study – approximately 100 hours/module.

Coursework-assessed modules are mainly carried out in groups, and GTA are available to support you with the hardware or software labs for the coursework. It is expected that a team spends an additional 163 hour/module on coursework outside the face-to-face time. Lab technicians and GTAs will be able to help you understand difficult concepts and implementations. To be successful with multiple coursework-assessed modules that run in parallel, good time management skills will be required to fulfil your obligations to deliver the coursework in time.

You will have the opportunity to carry out either a 6 month Industrial Placement or a 3 month group project proposed by one of our industrial partners. You will complete a Professional Competencies module in your 4th year . If you took the Industrial Placement module in 3rd year, your work experience is recognised by an enhanced version of this module .

In your third year you will take a module from our I-Explore programme. These are modules in the areas of humanities, languages and business that are offered across the whole Imperial. I-Explore modules are designed to broaden your perspectives, give new context to your disciplinary knowledge and allow you to share your expertise for the benefit of society.

Members of staff define Final Year Projects (Year 4), however we encourage you to propose your own project and seek a supervisor amongst the members of staff. Industry-led projects are also allowed but you will need to take initiative to organise this and receive approval from the department. Although meetings with your supervisor are not timetabled, both you and your supervisor should mutually agree on suitable times to meet on a regular basis. The success of the outcome will mainly depend on your initiative, creativity, hard work and good communication with your supervisor or the GTA/research assistant who will be helping you.

In years 3 and 4 you will also have access to elective modules in the Department of Computing (DoC). Please read their programme specifications for more details as the DoC modules might differ from the approach in the Department of Electrical and Electronic Engineering. In general DoC modules have a similar workload, and also provide similar support.

Assessment Strategy

Assessment Methods

A variety of formative and summative assessment methods are utilised in this programme. Formative assessment will be conducted through different techniques, including online self-assessment, key skills assessments, tutorial sessions and other approaches that might evolve based on the developments in learning and teaching technology. Summative assessment (assessments that evaluate your understanding of engineering concepts and gives the department an insight into how well you master these). Summative assessments count towards your final degree and offer opportunities for you and your instructors to assess you level of understanding and progress on a module.

You can expect a variety of different types of assessment methods:

- On-line tests
- Written coursework
- Group working
- Hardware and software demonstrators
- Written examinations
  Oral presentations

In years 1 and 2, there is a programme of continuous assessment which is centred around mid-term exams and practical laboratory exercises. The majority of the written examination are held at the beginning of the summer term. In years 3 and 4, you will have the option to select the modules that you want to study, and the number and type of their assessments depend on your elective module choices. In year 3, written examinations for the autumn term modules takes place in December. Spring term modules are assessed either by coursework, or written exam

at end of term. This allows you to start your 6-months Industrial Placement in end of March, In year 4, the majority of modules have a mix of written exam-based assessment and coursework.

Please refer to Department of Computing programme specifications for more details on the modules that they offer as they might differ from the approach in the Electrical and Electronic Engineering Department.

Balance of assessment

The following are approximate percentages based on a typical pathway through the course.

	1st year	2nd year	3rd year	4th year
Coursework	15	13	43	43
Exam	65	65	54	54
Practical	20	22	3	3

Academic Feedback Policy

Formative feedback
Will be via online self-assessment opportunities, group-based-learning approaches (in class and online), comments on reports and portfolios, in-class module feedback and feedback via tutorials.

Laboratory demonstrators will be available for help and feedback during the laboratory session.
For your final year project, you will receive feedback during an interview on approach and progress from your second marker at an interim stage.

Summative feedback
Will be via online assessment, team-based-learning approaches (in class and online), automated testing of code, comments on reports and portfolios and in-class module test feedback. Feedback on exams is in the form of grades and annotated example answers that will be made available after the September Examiners' Meeting. Summative feedback on the presentations will be provided during the presentation session.

Important note: You will take some of your elective modules from the Department of Computing. Please read their programme specifications for more details as they might differ from the approach in the Electrical and Electronic Engineering Department.

Imperial's Policy on Academic Feedback and guidance on issuing provisional marks to students is available at: www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Re-sit Policy

Imperial's Policy on Re-sits is available at: www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Mitigating Circumstances Policy

Imperial's Policy on Mitigating Circumstances is available at: www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Additional Programme Costs

This section should outline any additional costs relevant to this programme that are not included in students' tuition fees.

Description	Mandatory/Optional	Approximate cost

Laptop computer	Optional	The recommendation is that you bring your own laptop to join the bring-your-own-devices (BYOD) scheme. The Department runs a free laptop loan scheme for those without laptop or those who forgot to bring their laptop to university.
Computer software	Optional	Imperial/Department gives you access to the required software that support the modules. In those cases where external GPU time is needed, the department runs a refund scheme.
You will need to consider the costs involved with placements. Information on the types of costs which may be incurred can be found in the Placements Abroad Handbook which is available at www.imperial.ac.uk/placements/information-for-imperial-college-students/		

Important notice: The Programme Specifications are the result of a large curriculum and pedagogy reform implemented by the Department and supported by the Learning and Teaching Strategy of Imperial College London. The modules, structure and assessments presented in this Programme Specification are correct at time of publication but might change as a result of student and staff feedback and the introduction of new or innovative approaches to teaching and learning. You will be consulted and notified in a timely manner of any changes to this document when implemented in session. Updated versions will be on-line at the start of the academic year.

Programme Structure[1]

Year 1 – FHEQ Level 4
You will study all core modules.

Code	Module Title	Core/ Compulsory/ Elective	Group*	Term	Credits
ELEC40013	Mathematics 1A	Core		Autumn	7.5
ELEC40014	Mathematics 1B	Core		Spring	7.5
ELEC40009	Devices, Power and Communications	Core		Autumn-Spring	7.5
ELEC40004	Programming for Engineers	Core		Autumn-Spring	10
ELEC40002	Analysis and Design of Circuits	Core		Autumn-Spring	10
ELEC40003	Digital Electronics and Computer Architecture	Core		Autumn-Summer	10
ELEC40006	Electronics Design Project 1	Core		Summer	7.5
				Credit Total	60

Year 2 - FHEQ Level 5
You will study all core modules.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
ELEC50011	Mathematics for Engineers	Core		Autumn	5
ELEC50006	Discrete Mathematics	Core		Autumn	5
ELEC50010	Instruction Architectures and Compilers	Core		Autumn-Spring	10
ELEC50014	Software Systems	Core		Autumn	5
ELEC50009	Information Processing	Core		Spring	5
ELEC50013	Signals and Systems	Core		Autumn	5
ELEC50002	Communications	Core		Spring	7.5
ELEC50004	Control Systems	Core		Spring	7.5
ELEC50015	Electronics Design Project 2	Core		Summer	10

[1] **Core** modules are those which serve a fundamental role within the curriculum, and for which achievement of the credits for that module is essential for the achievement of the target award. Core modules must therefore be taken and passed in order to achieve that named award. **Compulsory** modules are those which are designated as necessary to be taken as part of the programme syllabus. Compulsory modules can be compensated. **Elective** modules are those which are in the same subject area as the field of study and are offered to students in order to offer an element of choice in the curriculum and from which students are able to select. Elective modules can be compensated.

				Credit Total	60

Year 3 - FHEQ Level 6
You must choose at least 3 modules from group A+B, and at least 2 computing modules from group DoC. In total you must take 7 modules from the combined A+B+DoC group. You must take one iExplore module. All students must choose 1 module from group P.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
ELEC60021	Mathematics for Signals and Systems	Elective	A	Autumn	5
ELEC60004	Machine Reasoning	Elective	A	Autumn	5
ELEC60005	Biomedical Electronics	Elective	A	Autumn	5
ELEC60008	Control Engineering	Elective	A	Autumn	5
ELEC60010	Digital Signal Processing	Elective	A	Autumn	5
ELEC60006	Communication Networks	Elective	A	Autumn	5
ELEC60019	Machine Learning	Elective	A	Autumn	5
ELEC60034	Digital Communications (not running in 2025-26)	Elective	A	Autumn	5
ELEC60002	Statistical Signal Processing and Inference	Elective	B	Spring	5
ELEC60009	Deep Learning	Elective	B	Spring	5
ELEC60011	Digital Systems Design	Elective	B	Spring	5
ELEC60013	Embedded Systems	Elective	B	Spring	5
ELEC60015	High Level Programming	Elective	B	Spring	5
ELEC60031	Principles of Classical and Modern Radar Systems	Elective	A	Autumn	5
ELEC60025	Real Time Digital Signal Processing (not running in 2025-26)	Elective	B	Spring	5
ELEC60030	Robotic Manipulation	Elective	B	Spring	5
ELEC60033	Electric Vehicle Technologies	Elective	B	Spring	5
COMP60001	Advanced Computer Architecture	Elective	DoC	Autumn	5
COMP60007	The Theory and Practice of Concurrent Programming	Elective	DoC	Autumn	5
COMP60012	Introduction to Machine Learning	Elective	DoC	Autumn	5
COMP60016	Operations Research	Elective	DoC	Autumn	5
COMP60020	Simulation and Modelling (not running in 2025-26)	Elective	DoC	Autumn	5
COMP60023	Type Systems for Programming Languages	Elective	DoC	Autumn	5

COMP60029	Data Processing Systems	Elective	DoC	Autumn	5
COMP60032	Networked Systems	Elective	DoC	Autumn	5
COMP60006	Computer Vision	Elective	DoC	Spring	5
COMP60008	Custom Computing	Elective	DoC	Spring	5
COMP60009	Distributed Algorithms (not running in 2025-26)	Elective	DoC	Spring	5
COMP60005	Graphics	Elective	DoC	Spring	5
COMP60015	Network and Web Security	Elective	DoC	Spring	5
COMP60017	System Performance Engineering	Elective	DoC	Spring	5
	I-Explore	Compulsory		Autumn or Spring	5 or 7.5
ELEC60014	Group Consultancy Project	Elective	P	Summer	20
ELEC60016	Electrical Engineering Industrial Placement	Elective	P	Summer	20
				Credit Total	60 or 62.5

Year 4 - FHEQ Level 7
You must take either ELEC70107 Professional Competencies with Industrial Experience or ELEC70108 Professional Competencies Portfolio, and all other core and compulsory modules. You must choose at least 2 modules from group A+B and at least 2 modules from group DoC, with a total of 6 modules from the A+B+DoC group. You may take one IDX module from group C.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
ELEC70108	Professional Competencies Portfolio	Compulsory		Autumn-Summer	5
ELEC70107	Professional Competencies with Industrial Experience	Compulsory		Autumn-Summer	25
ELEC70017	Individual Project	Core		Autumn-Summer	30
ELEC70106	Ethics and Sustainability	Compulsory		Autumn	5
ELEC70045	Advanced Communication Theory	Elective	A	Autumn	5
ELEC70069	Cryptography and Coding Theory	Elective	A	Autumn	5
ELEC70078	Digital Image Processing	Elective	A	Autumn	5
ELEC70056	Hardware and Software Verification	Elective	A	Autumn	5
ELEC70022	Modelling and Control of Multi-body Mechanical Systems	Elective	A	Autumn	5
ELEC70098	Optimisation	Elective	A	Autumn	5

ELEC70075	Power System Economics	Elective	A	Autumn	5
ELEC70048	Probability and Stochastic Processes	Elective	A	Autumn	5
ELEC70071	Self-Organising Multi-Agent Systems	Elective	A	Autumn	5
ELEC70091	Stability and Control of Non-linear Systems	Elective	A	Autumn	5
ELEC70092	Systems Identification and Learning	Elective	A	Autumn	5
ELEC70037	Topics in Large Dimensional Data Processing	Elective	A	Autumn	5
ELEC70039	Wavelets, Representation Learning and their Applications	Elective	A	Autumn	5
ELEC70110	Neuroscience for Machine Learners	Elective	A	Autumn	5
ELEC70083	Quantum Information and Post-Quantum Cryptography (not running in 2025-26)	Elective	A	Autumn-Spring	5
ELEC70136	Game Theory for Multi-Agent Decision Making	Elective	A	Autumn	5
ELEC70085	Computational Sensing and Imaging	Elective	A	Autumn	5
ELEC70142	Digital VLSI System-on-Chip (SoC) Design	Elective	A	Autumn	5
ELEC70134	Communications: Physical Layer	Elective	A	Autumn	5
ELEC70066	Applied Advanced Optimisation	Elective	B	Spring	5
ELEC70001	Adaptive Signal Processing and Machine Intelligence	Elective	B	Spring	5
ELEC70073	Computer Vision and Pattern Recognition	Elective	B	Spring	5
ELEC70090	Digital Control Systems	Elective	B	Spring	5
ELEC70077	Digital Signal Processing and Digital Filters	Elective	B	Spring	5
ELEC70009	Discrete-event Systems	Elective	B	Spring	5
ELEC70006	Design of Linear Multivariable Systems	Elective	B	Spring	5
ELEC70015	Human-centred Robotics	Elective	B	Spring	5
ELEC70070	Information Theory	Elective	B	Spring	5
ELEC70028	Predictive Control	Elective	B	Spring	5
ELEC70103	Machine Intelligence for Finance	Elective	B	Spring	5
ELEC70080	Speech Processing	Elective	B	Spring	5
ELEC70076	Sustainable Electrical Systems	Elective	B	Spring	5
ELEC70067	Traffic Theory and Queuing Systems (not running in 2025-26)	Elective	B	Spring	5
ELEC70109	Advanced Deep Learning Systems	Elective	B	Spring	5
ELEC70082	Distributed Optimisation and Learning	Elective	B	Spring	5

ELEC70081	Wireless Communications and Optimisation	Elective	B	Spring	5
ELEC70065	Optimal Control	Elective	B	Spring	5
ELEC70112	Power System Planning	Elective	B	Spring	5
ELEC70131	Sensor Systems and Networks	Elective	B	Spring	5
ELEC70122	Machine Learning for Safety Critical Decision-Making	Elective	B	Spring	5
COMP70005	Complexity	Elective	DoC	Autumn	5
COMP70015	Mathematics for Machine Learning	Elective	DoC	Autumn	5
COMP70020	Program Analysis	Elective	DoC	Spring	5
COMP70006	Computational Finance	Elective	DoC	Autumn	5
COMP70068	Scheduling and Resource Allocation	Elective	DoC	Autumn	5
COMP70001	Advanced Computer Graphics	Elective	DoC	Spring	5
COMP70007	Computational Optimisation	Elective	DoC	Spring	5
COMP70010	Deep Learning	Elective	DoC	Spring	5
COMP70009	Cryptography Engineering (not running in 2025-26)	Elective	DoC	Spring	5
COMP70019	Probabilistic Inference	Elective	DoC	Spring	5
COMP70024	Software Reliability	Elective	DoC	Spring	5
COMP70014	Machine Learning for Imaging	Elective	DoC	Spring	5
COMP70021	Quantum Computing	Elective	DoC	Autumn	5
COMP70017	Principles of Distributed Ledgers	Elective	DoC	Autumn	5
COMP70098	Introduction to Concrete Complexity	Elective	DoC	Spring	5
	IDX Modules[†]	Elective	C	Autumn or Spring	5
				Credit Total	70 or 90

* 'Group' refers to module grouping (e.g. a group of electives from which one/two module(s) must be chosen).

[†]one or more modules may be made available to you from across the Faculty of Engineering through the Inter-Departmental Exchange (IDX) scheme. Module availability and eligibility may vary, as approved on an annual basis by the Faculty Education Committee. Full details on the modules currently available to you can be found here: www.imperial.ac.uk/engineering/study/current/inter-departmental-exchange-idx/

Important notice: The range of electives available in a given year is dependent on staff availability (influenced by sabbaticals, retirements and resignations). Where possible, you will be given notice of which options are available to you ahead of making module choices.

The department reserves the right to cancel an elective module if the number of registered students is low.

Progression and Classification

Progression

In order to progress to the next level of study, you must have passed all modules in the current level of study at first attempt, at resit or by a compensated pass.

The overall weighted average for each year must be 40.00%, including where a module(s) has been compensated, in order for you to progress to the next year of the programme. The pass mark in the fourth and final year is 50.00%.

In order to progress to the 4th year of the MEng degree you must have achieved a minimum of 50.00% in the weighted total mark over 3 years.

Compensation

Compensation is the practice of allowing marginal failure of one or more modules, on the basis of good overall academic performance. Core modules cannot be compensated.

Classification

The marks from modules in each year contribute towards the final degree classification.

In order to be considered for an award, you must have achieved the minimum number of credits at the required levels prescribed for that award and met any programme specific requirements as set out in the Programme Specification.

Your classification will be determined through:

i) Aggregate Module marks for all modules
ii) Year Weightings

For this award the weightings are:

Year 1	7.50%
Year 2	20.00%
Year 3	36.25%
Year 4	36.25%

The university sets the class of undergraduate degree that may be awarded as follows:

First	70.00.% or above for the average weighted module results
Upper Second	60.00% or above for the average weighted module results
Lower Second	50.00% or above for the average weighted module results
Third	40.00% or above for the average weighted module results

Please find the full Academic Regulations at www.imperial.ac.uk/about/governance/academic-governance/regulations/. Please follow the prompts to find the set of regulations relevant to your programme of study.

Programme Specific Regulations

As an accredited degree, students on this programme are subject to the standards set by the Engineering Council in relation to compensation: a maximum of 15 ECTS credits can be compensated across the entire programme.

Policies and regulations may vary for students on a year abroad. You are encouraged to familiarise yourself with the relevant policies and regulations which will underpin your studies while abroad before you go. If you have any questions, please talk to your host institution or your home departmental contact.

Supporting Information
The Programme Handbook is available at: www.imperial.ac.uk/electrical-engineering/internal/current-students-course-handbook/undergraduate-handbook/.
The Module Handbook is available at: www.imperial.ac.uk/electrical-engineering/internal/current-students-course-handbook/undergraduate-handbook/.
Imperial's entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/apply/postgraduate-taught/entry-requirements/
Imperial's Quality & Enhancement Framework is available at: www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance
Imperial's Academic and Examination Regulations can be found at: www.imperial.ac.uk/about/governance/academic-governance/regulations
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Imperial College London is regulated by the Office for Students (OfS) www.officeforstudents.org.uk/advice-and-guidance/the-register/
This document provides a definitive record of the main features of the programme and the learning outcomes that you may reasonably be expected to achieve and demonstrate if you take full advantage of the learning opportunities provided. This programme specification is primarily intended as a reference point for prospective and current students, academic and support staff involved in delivering the programme and enabling student development and achievement, for its assessment by internal and external examiners, and in subsequent monitoring and review.