Programme Information		
Programme Title	Programme Code	HECoS Code
Biomedical Engineering	B9A1	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MSc	1 Calendar year (12 months)	Full-Time	Annually in October	90	180
PG Diploma – BH9CD	N/A	N/A	N/A	60	120
PG Certificate – BH9CT	N/A	N/A	N/A	30	60
The PG Certificate and PG Diploma are exit awards and are not available for entry. The PG Certificate and PG Diploma are not accredited by any professional body. You must apply to and join the MSc.					

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Engineering
Teaching Institution	Imperial College London	Department	Bioengineering
Associateship	Diploma of Imperial College (DIC)	Main Location(s) of Study	South Kensington and White City Campuses
External Reference			
Relevant QAA Benchmark Statement(s) and/or other external reference points		Master's Awards in Engineering UK-SPEC	
FHEQ Level		Level 7	
EHEA Level		2nd Cycle	
External Accreditor(s) (if applicable)			
External Accreditor 1:	The Institution of Engineering and Technology		
Accreditation received:	2012	Accreditation renewal:	2026
External Accreditor 2:	Institution of Mechanical Engineers		
Accreditation received:	2013	Accreditation renewal:	Pending
External Accreditor 3:	Institute of Materials, Minerals & Mining		
Accreditation received:	2013	Accreditation renewal:	2029

External Accreditor 4:	Institution of Engineering Designers		
Accreditation received:	2018	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		Dr David Labonte	
Student cohorts covered by specification		2025-26 entry	
Date of introduction of programme		October 91	
Date of programme specification/revision		January 25	

Programme Overview

Biomedical engineers use their technological knowledge and understanding to help people live longer, healthier, happier lives. In our postgraduate Biomedical Engineering programme you will build on your own technical background and understanding of mathematics, physical sciences or engineering and learn how to apply this knowledge in the analysis and solution of Biomedical Engineering problems.

The MSc Biomedical Engineering is a one-year full-time programme leading to the MSc award. As a student of the programme you will benefit from interaction with students on other programmes in the Department to develop their interdisciplinary knowledge. Our programme combines lectures, study groups, and taught classes where you gain a theoretical understanding, with a substantial engineering project where you will work on a real-world problem in medicine and biology with life-changing potential. You may choose to develop your practical and laboratory skills either through the selection of taught modules with practical content, or during your project work. Taught modules typically run during the Autumn and Spring terms which allows you to focus full-time on your project in the latter half of the year. It may be possible for projects to be carried out partly or wholly at an external organisation and requests will be considered on a case by case basis. The programme is taught on both the South Kensington and White City Campuses. Laboratories as part of taught modules will normally be at the South Kensington Campus.

The programme is split into five streams to allow you to specialise in an area of interest to you. All streams are modular, consisting of compulsory and elective options. The compulsory content includes a number of modules common to all streams designed to ensure our diverse intake of students have a foundational knowledge of key areas relating to biomedical engineering and research. These modules cover systems physiology, statistical and data analysis tools, regulatory and business principles within a medical device framework, and how to critically assess relevant scientific literature.

Each stream will have typically three or four specialist compulsory modules that have been selected to cover the key topics within the defined research area, and a choice of typically two or three electives from a curated list. Not all applicants will be suitable for all streams so please consider the pre-requisites for each stream before selecting your preferred stream. You will need to specify your choice of stream during the application process.

Biomechanics and Mechanobiology
Mechanical forces shape the form and function of biological systems and regulate biological processes across all levels and scales. If you choose this stream your compulsory modules will focus on applying mechanical principles to understand bioengineering problems related to the motion of joints, contraction of cells and the flow of biological fluids. You will gain an understanding of the pervasive role of mechanics in biology, and the impacts on some of the major causes of mortality and morbidity, such as cardiovascular disease, glaucoma and cancer.

Pre-requisites: You should have a background including some experience in solid mechanics including kinematics and stress analysis and fluid mechanics/dynamics.

Biomaterials
If you choose this stream you will learn about the selection and use of biomaterials in medical and surgical devices, including their application, properties, interaction with tissues and drawbacks. You will study existing and new biomaterials, including bioactive and biodegradable materials, implants and dental materials. Modules that you study as part of this stream also cover the development of materials for new applications, the response of cells and the design of materials as scaffolds for tissue engineering, which involves tailoring materials so that they guide stem cells to produce new tissue.

Pre-requisites: you should have a background including some experience either in wet-lab skills or experience in modelling and simulation.

Medical Physics
The Medical Physics stream allows you to develop the physical understanding required for healthcare and medical research, focusing on human physiology, and the use of radiation in treatment and in clinical imaging. You will also learn about the signal and image processing methods needed for the design and optimal use of such systems in diagnosis and research.

Pre-requisites: you should demonstrate a focus towards the healthcare sector and some practical experience

Neurotechnology
On the Neurotechnology stream you will learn about the development of new technology for the investigation of brain function, focusing on the application of this to benefit society—for example the development of neuroprosthetic devices, new neuroimaging techniques, and developing drugs and robotic assistive devices for those with central nervous system disorders, as well as in biologically-inspired control engineering.

Pre-requisites: you should demonstrate a strong mathematical background with experience of advanced calculus including Ordinary Differential Equations, linear algebra including the manipulation of vectors and matrices and probability theory. You should also have some basic prior programming experience.

Computational and theoretical Bioengineering

Computational and theoretical modelling is essential to understand the fundamental mechanisms behind how organisms function and how diseases progress. In this stream you will learn how to select and apply mathematical models and techniques to biological data, as well as develop an understanding of machine learning and its applications in Biomedical Engineering research. Your choice of elective modules and project will allow you to explore how developments in computational capabilities are allowing us insights into a range of Biomedical Engineering problems.

Pre-requisites: you should demonstrate a strong mathematical background. You should also have some prior programming experience.

In addition to the main programme content, the department hold regular seminars and workshops with guest speakers whose research spans the Bioengineering discipline. You are encouraged to attend the seminars to deepen and broaden your understanding of the Bioengineering field. Our programme will prepare you to analyse and solve problems in bioengineering using an integrated, multidisciplinary approach, and our graduates are well-placed to gain employment in a growing industry or to apply for PhD programmes in the UK and worldwide.

Learning Outcomes

The following Learning Outcomes are in line with FHEQ level 7 and the UK-SPEC outcomes required for accreditation by professional engineering bodies.

The Learning Outcomes are categorised into the following groups:
- Knowledge and Understanding **[KU]**
- Intellectual Abilities **[IA]**
- Practical and Transferable skills **[PT]**

Upon successful completion of the *MSc Biomedical Engineering* programme you will be able to:

[KU1] Assess the underlying scientific principles, engineering mathematics and computational models and tools that underpin the field of Biomedical Engineering and identify their limitations.

[KU2] Evaluate the core concepts, principles and theories relevant to Biomedical Engineering and how these are relevant to historical, current and future developments and technologies in the Biomedical Engineering field.

[KU3] Evaluate a wide range of innovative and creative engineering solutions applied to healthcare problems and quality-of-life issues and critically discuss these examples in terms of their commercial, economic, social and sustainability implications.

[KU4] Recognise and justify the need for a high level of professional and ethical conduct in engineering, based on a knowledge of professional codes of conduct, how ethical dilemmas can arise and the management of risk issues.

[KU5] Evaluate management and business practices that may be applied in the development of technologies in the Biomedical Engineering field, with reference to regulatory requirements applicable to medical devices and healthcare solutions.

[IA1] Critically select and apply engineering principles and tools for the analysis and solution of familiar and unfamiliar Biomedical Engineering problems including investigation of new and emerging technologies.

[IA2] Apply diagnostic skills, technical knowledge and understanding of engineering design processes and materials to establish rigorous and creative solutions to complex Biomedical Engineering problems and to fulfil new needs.

[IA3] Extract, analyse and critically evaluate information and data gathered from academic and technical resources.

[IA4] Work with information that may be incomplete or uncertain, quantify the effect of this on the design or development of an engineering solution and, where appropriate, use theory or experimental research to mitigate deficiencies through the generation of new data

[PT1] Work effectively within a team, demonstrating leadership, project management and communication skills that show an appreciation for the different roles within an engineering team.

[PT2] Exercise initiative and judgement in a range of situations, identifying areas for self-learning and development, and accepting accountability for decisions made and the quality of outcomes produced.

[PT3] Work individually and/or within a group to plan, conduct and professionally communicate the results of a programme of original research or advanced technical design activities, in a safe and ethical manner in laboratory or computational settings.

Upon successful completion of the *PG Diploma Biomedical Engineering* programme you will be able to:

[KU1] Assess the underlying scientific principles, engineering mathematics and computational models and tools that underpin the field of Biomedical Engineering and identify their limitations.

[KU2] Evaluate the core concepts, principles and theories relevant to Biomedical Engineering and how these are relevant to historical, current and future developments and technologies in the Biomedical Engineering field.

[KU3] Evaluate a range of innovative and creative engineering solutions applied to healthcare problems and quality-of-life issues and critically discuss these examples in terms of their commercial, economic, social and sustainability implications.

[KU4] Recognise and justify the need for a high level of professional and ethical conduct in engineering, based on a knowledge of professional codes of conduct, how ethical dilemmas can arise and the management of risk issues.

[KU5] Describe and critically discuss management and business practices that may be applied in the development of technologies in the Biomedical Engineering field, with reference to regulatory requirements applicable to medical devices and healthcare solutions.

[IA1] Critically select and apply engineering principles and tools for the analysis and solution of familiar and unfamiliar Biomedical Engineering problems

[IA2] Extract, analyse and critically evaluate information and data gathered from academic and technical resources.

[IA3] Work with information that may be incomplete or uncertain, quantify the effect of this on the design or development of an engineering solution and, where appropriate, use theory or experimental research to mitigate deficiencies through the generation of new data

[PT1] Work effectively within a team, demonstrating leadership, project management and communication skills.

[PT2] Work individually and/or within a group to plan, conduct and professionally communicate the results of a programme of original research or advanced technical design activities, in a safe and ethical manner in laboratory or computational settings.

Upon successful completion of the *PG Certificate Biomedical Engineering* programme you will be able to:

[KU1] Assess the underlying scientific principles, engineering mathematics and computational models and tools that underpin the field of Biomedical Engineering and identify their limitations.

[KU2] Evaluate the core concepts, principles and theories relevant to Biomedical Engineering and how these are relevant to historical, current and future developments and technologies in the Biomedical Engineering field.

[KU3] Evaluate a range of innovative and creative engineering solutions applied to healthcare problems and quality-of-life issues and critically discuss these examples in terms of their commercial, economic, social and sustainability implications.

[KU4] Recognise and justify the need for a high level of professional and ethical conduct in engineering, based on a knowledge of professional codes of conduct, how ethical dilemmas can arise and the management of risk issues.

[KU5] Describe and critically discuss management and business practices that may be applied in the development of technologies in the Biomedical Engineering field, with reference to regulatory requirements applicable to medical devices and healthcare solutions.

[IA1] Critically select and apply engineering principles and tools for the analysis and solution of familiar and unfamiliar Biomedical Engineering problems

[IA2] Extract, analyse and critically evaluate information and data gathered from academic and technical resources.

[IA3] Work with information that may be incomplete or uncertain, and where appropriate, use theory to mitigate deficiencies through the generation of new data

[PT1] Work effectively within a team, demonstrating leadership, project management and communication skills.

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

Entry Requirements	
Academic Requirement	Our minimum requirement is a 2.1 degree in an engineering, physical sciences or mathematical subject. Applications for the programme are competitive, applications with less than a 2.1 or international equivalent will be unlikely to receive offers. As an engineering degree, the

	Biomedical Engineering MSc requires a strong maths competency and successful applicants will typically be expected to have scored the equivalent of a 2.1 or above in maths topics during their undergraduate degree. Biomechanics and Mechanobiology – applicants should have some experience in solid mechanics including kinematics and stress analysis and fluid mechanics/dynamics. Biomaterials and Tissue Engineering – applicants should have either wet-lab skills or experience in modelling and simulation. Medical Physics and Imaging – applicants should demonstrate a focus towards the healthcare sector and some practical experience. Neurotechnology – applicants should demonstrate a strong mathematical background with experience of advanced calculus including Ordinary Differential Equations, linear algebra including the manipulation of vectors and matrices and probability theory. Students from a Medical or Life Sciences background may wish to consider our MSc Engineering for Biomedicine. Computational – applicants should demonstrate a strong mathematical background and prior programming experience. For further information on entry requirements, please go to: www.imperial.ac.uk/study/apply/postgraduate-taught/entry-requirements/
Non-academic Requirements	None
English Language Requirement	Higher requirement (PG) Please check for other Accepted English Qualifications
Admissions Test/Interview	Applicants may be invited to attend an interview with one or more members of academic staff

The programme's competency standards documents can be found at: www.imperial.ac.uk/media/imperial-college/faculty-of-engineering/bioengineering/public/student/Competency-Standards---Bioengineering-UG-PG---June-2016-Final.pdf

Learning & Teaching Approach

Learning and Teaching Delivery Methods

You will be taught through a combination of lectures, study groups and tutorials, computing labs, guest lectures and presentations. Study groups and tutorials will enable you to discuss and develop your understanding of topics covered in lectures whilst in smaller groups of around 30 students. These are usually based around problem sheets, questions or computational tasks set by the module lecturers. You will be expected to solve these either individually or as part of a small group. Study groups and tutorials are supported by graduate teaching assistants. Timetabled sessions may be delivered online or in person, or in a hybrid format.

Depending on your stream and elective choice you may also attend laboratories sessions in our wet or dry laboratories and develop your practical skills.

The Virtual learning environment Blackboard will be used as a repository for teaching materials including recordings of all lectures, lecture notes and problem sheets. Learning technologies will be used to support teaching activities including in-class polling with Mentimeter, online self-diagnostic quizzes and online class forums.

Independent Learning

You are expected to spend significant time on independent study outside of timetabled learning and teaching sessions. From our experience students that undertake independent learning have improved academic performance, increased motivation and confidence in themselves and their abilities. By undertaking independent learning, you are also preparing yourself for professional practice where it is expected that you will manage your own continued professional development. Independent learning activities that you will be expected to undertake will typically include accessing online resources, completing problem sheets, reading journal articles and books, undertaking research in the library, reviewing lecture notes and watching lecture recordings, working on individual and group projects, working on coursework assignments and revising for exams.

Bioengineering uses flipped teaching for some modules, meaning that you need to actively engage with on-line resources ahead of attending timetabled sessions. This independent learning is followed by sessions led by the teacher where all students work in small groups to apply that knowledge to more practical examples. This helps you to further consolidate and enhance your understanding of the topics you study and allows us the time to focus on more challenging concepts in the taught sessions. These taught sessions are normally in the place of study groups for a flipped module

Major Individual Project
A key part of our MSc programme is the Major Individual Project. This project gives you an opportunity to build on the knowledge and skills you will have developed in your taught modules and apply this to current engineering, design and research problems that interest you. The project also helps you to develop important project management, team working and communication skills that are highly valued by employers and international research groups.

The project is conducted throughout the year but the majority of work is normally undertaken in the summer term, when you will be expected to work on this full time. Whilst this project will be based in Bioengineering it may involve collaboration with groups in other Imperial departments or with Industry.

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 taken equates to an expected total study time of 25 hours. Therefore, the expected total study time for the MSc Biomedical Engineering 2,250 hours per year.

Typically, you will spend in the order of 15% of your time on lectures, seminars and similar (around 300 hours) and in the order of 85% of your time on independent study. Around half of your independent study hours are spent on your Major Individual Project.

Assessment Strategy

Assessment Methods

A variety of assessment methods will be used to test your understanding. Assessments are grouped as formative and summative.

Formative assessments do not contribute to the module mark but provide information on your progress as an individual and in the context of the class. This allows you to learn by using your new skills to solve problems and receive feedback on your performance to guide your future learning. This supports you to achieve a better performance in the summative assessments which do count towards your module marks. Formative assessments also provide feedback to the teaching staff which allow us to adapt our teaching.

Summative assessments are used to assess your learning against the intended module learning outcomes and contribute towards your achievement of the programme learning outcomes, detailed above. There is summative assessment during and/or at the end of each module and these assessments will contribute towards your mark for each year.

The choice of assessment method is largely determined by the learning objectives being assessed and includes:

Assessed Coursework

- Problem sheets
- Laboratory reports – individually or as part of a portfolio.
- Practical demonstrations
- Project reports
- Oral presentations
- Poster presentations
- Academic tutorials
- In class progress tests

Examinations

- Written examinations
- Oral examinations

The design of our programme will allow you to test your understanding of the subject using formative assessments such as problem sheets, on-line diagnostic tests and mock/past examinations before you complete the summative assessments that count towards your final mark.

The exact balance of the summative assessment through the programme depends upon which elective modules are taken, but an indicative breakdown is:

Coursework	35%
Exams	35%
Practicals	30%

Academic Feedback Policy

Feedback will be provided to you in one of many formats, including (but not limited to):

- Oral (during or after lectures, personally or as a group feedback session)
- Personal (discussion with academics during office hours, meetings with Personal Tutors)
- Interactive (problem solving with GTAs & study groups, peer feedback)
- Written (solutions/model answers to coursework, notes on submitted reports)
- Online (results of online tests with correct answers provided)
- Self-reflective (personal journals, reflective essays and class discussion)

It is department policy to provide feedback to students normally within 10 working days of assessment submission. This timeframe may be extended for significantly large assessments or for final examinations. In this case the date when feedback will be available by will be communicated to students.

Individual feedback will not be provided on written examinations. However, feedback on the general performance of the cohort on the exam questions will be given. Numerical results for each module will be published after the meeting of the final Board of Examiners

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

Eligibility for resits is determined by the Examination Board in line with Imperial's policy. The Department of Bioengineering does not normally offer resits in September. Students with marginal failure may be offered a supplementary qualifying test in place of a re-sit opportunity.

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 which are not included in students' tuition fees.

Description	Mandatory/Optional	Approximate cost

N/A	N/A	N/A

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.

Programme Structure[1]

Year 1 – FHEQ Level 7
You will study the core module, 'MSc Major Individual Project' (Total 40 ECTS) and the first 4 compulsory modules (Total 20 ECTS).

You also choose one of the five streams A) Biomechanics and Mechanobiology B) Biomaterials C) Medical Physics D) Neurotechnology and E) Computational Bioengineering. You must then study all the compulsory modules associated with that stream and choose electives to form a total of 30 ECTS.

Code	Module Title	Core/ Compulsory/ Elective/	Group	Term	Credits
BIOE70025	MSc Major Individual Project	Core	N/A	Autumn-Summer	40
BIOE70074	Journal Club	Compulsory	N/A	Spring	5
BIOE70026	Systems Physiology	Compulsory	N/A	Autumn	5
BIOE70037	Data Analysis for Research	Compulsory	N/A	Autumn	5
BIOE70028	Medical Device Certification	Compulsory	N/A	Spring	5
Biomechanics and Mechanobiology – Study all compulsory modules and choose two electives from Group B					
BIOE70029	Biomechanics L7	Compulsory (for stream)	N/A	Autumn	5
BIOE70030	Physiological Fluid Mechanics L7	Compulsory (for stream)	N/A	Spring	5
BIOE70017	Molecular, Cell and Tissue Biomechanics	Compulsory (for stream)	N/A	Spring	5
BIOE70019	Orthopaedic Biomechanics	Compulsory (for stream)	N/A	Spring	5
BIOE70010	Principles of Biomedical Imaging L7	Elective (for stream)	B	Autumn	5
BIOE70031	Biomedical Advanced and Computational Stress Analysis L7	Elective (for stream)	B	Spring	5
BIOE70012	Biomimetics	Elective (for stream)	B	Spring	5
BIOE70005	Cellular and Molecular Mechanotransduction	Elective (for stream)	B	Spring	5
BIOE70016	Human Neuromechanical Control and Learning	Elective (for stream)	B	Spring	5

[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.

BIOE70032	Tissue Engineering and Regenerative Medicine L7	Elective (for stream)	B	Spring	5
Biomaterials – Study all compulsory modules and choose three electives from Group C					
BIOE70033	Biomaterials for Bioengineers L7	Compulsory (for stream)	N/A	Autumn	5
BIOE70032	Tissue Engineering and Regenerative Medicine L7	Compulsory (for stream)	N/A	Spring	5
BIOE70056	Advanced Biomaterials for Bioengineers	Compulsory (for stream)	N/A	Autumn	5
BIOE70029	Biomechanics L7	Elective (for stream)	C	Autumn	5
BIOE70034	Mathematical Methods for Neural Science and Engineering	Elective (for stream)	C	Autumn	5
BIOE70010	Principles of Biomedical Imaging L7	Elective (for stream)	C	Autumn	5
BIOE70012	Biomimetics	Elective (for stream)	C	Spring	5
BIOE70035	Non-ionising Functional and Tissue Imaging	Elective (for stream)	C	Spring	5
Medical Physics – Study all compulsory modules and choose one elective from Group D					
BIOE70036	Image Processing L7	Compulsory (for stream)	N/A	Spring	5
BIOE70035	Non-ionising Functional and Tissue Imaging	Compulsory (for stream)	N/A	Spring	5
BIOE70070	Ionising Tissue and Flow Imaging L7	Compulsory (for stream)	N/A	Spring	5
BIOE70008	Advanced Physiological Monitoring and Data Analysis	Compulsory (for stream)	N/A	Autumn	5
BIOE70010	Principles of Biomedical Imaging L7	Compulsory (for stream)	N/A	Autumn	5
BIOE70034	Mathematical Methods for Neural Science and Engineering	Elective (for stream)	D	Autumn	5
BIOE70020	Neuroscience	Elective (for stream)	D	Autumn	5
BIOE70075	Engineering in Cancer Therapy	Elective (for stream)	D	Spring	5
Neurotechnology – Study all compulsory modules and choose three electives from Group E					
BIOE70034	Mathematical Methods for Neural Science and Engineering	Compulsory (for stream)	N/A	Autumn	5
BIOE70020	Neuroscience	Compulsory (for stream)	N/A	Autumn	5

BIOE70011	Brain Machine Interfaces	Compulsory (for stream)	N/A	Spring	5
BIOE70010	Principles of Biomedical Imaging L7	Elective (for stream)	E	Autumn	5
BIOE70077	Reinforcement Learning for Bioengineers	Elective (for stream)	E	Autumn	5
BIOE70012	Biomimetics	Elective (for stream)	E	Spring	5
BIOE70013	Computational Neuroscience	Elective (for stream)	E	Spring	5
BIOE70016	Human Neuromechanical Control and Learning	Elective (for stream)	E	Spring	5
Computational Bioengineering – Study all compulsory modules and choose three electives from Group F					
BIOE70036	Image Processing L7	Compulsory (for stream)	N/A	Spring	5
BIOE70053	Digital Biosignal Processing L7	Compulsory (for stream)	N/A	Autumn	5
BIOE70077	Reinforcement Learning for Bioengineers	Compulsory (for stream)	N/A	Autumn	5
BIOE70034	Mathematical Methods for Neural Science and Engineering	Elective (for stream)	F	Autumn	5
BIOE70010	Principles of Biomedical Imaging L7	Elective (for stream)	F	Autumn	5
BIOE70071	Software Engineering for Bioengineers L7	Elective (for stream)	F	Autumn	5
BIOE70150	Artificial Intelligence for Drug Discovery	Elective (for stream)	F	Spring	5
BIOE70012	Biomimetics	Elective (for stream)	F	Spring	5
BIOE70011	Brain Machine Interfaces	Elective (for stream)	F	Spring	5
BIOE70013	Computational Neuroscience	Elective (for stream)	F	Spring	5
				Credit Total	90

Progression and Classification

Award and Classification for Postgraduate Students

Award of a Postgraduate Certificate (PG Cert)
To qualify for the award of a postgraduate certificate you must have a minimum of 30 credits at Level 7.

Award of a Postgraduate Diploma (PG Dip)
To qualify for the award of a postgraduate Diploma you must have a minimum of 60 credits at Level 7 of which no more than 10 credits as a Compensated Pass.

Award of a Masters Degree (including MRes)
To qualify for the award of a postgraduate degree you must have:

1. accumulated credit to the value of no fewer than 90 credits at level 7
2. and no more than 10 credits as a Compensated Pass;
3. met any specific requirements for an award as outlined in the approved programme specification for that award.

Classification of Postgraduate Taught Awards

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

1. Distinction: 70.00% or above.
2. Merit: 60.00% or above but less than 70.00%.
3. Pass: 50.00% or above but less than 60.00%.

For a Masters, your classification will be determined through the Programme Overall Weighted Average and the designated dissertation or final major project module meeting the threshold for the relevant classification band.

Your degree algorithm provides an appropriate and reliable summary of your performance against the programme learning outcomes. It reflects the design, delivery and structure of your programme without unduly over-emphasising particular aspects.

Programme Specific Regulations

As an accredited degree, students on this MSc programme are subject to the standards set by the UK Engineering Council in relation to compensation. A maximum of 10 ECTS credits can be compensated across the programme.

Supporting Information
The Programme Handbook is available at: www.imperial.ac.uk/bioengineering/admin/current-pgt/msc-bme/
The Module Handbook is available at: www.imperial.ac.uk/bioengineering/admin/current-pgt/options/b9a1/
Imperial's entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/apply/postgraduate-taught/entry-requirements/accepted-qualifications/
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
Imperial College London is an independent corporation whose legal status derives from a Royal Charter granted under Letters Patent in 1907. In 2007 a Supplemental Charter and Statutes was granted by HM Queen Elizabeth II. This Supplemental Charter, which came into force on the date of Imperial's Centenary, 8th July 2007, established Imperial as a University with the name and style of "The Imperial College of Science, Technology and Medicine". www.imperial.ac.uk/admin-services/secretariat/university-governance-structure/charters/
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.