

This exemplar has been largely based on the Medical Biosciences BSc. However, for purposes of this exemplar, the text has amended to align with the curriculum review programme specification template.

Programme Information		
Programme Title	Programme Code	HECoS Code
Medical Biosciences	B101	For Registry Use

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
BSc	3 Years	Full Time	October	180	360
Dip HE*	2 Years	Full time	n/a	120	240
Cert HE*	1 Year	Full Time	n/a	60	120

\* These intermediate awards are not available for entry. All students must apply to and join the BSc.

Ownership			
Awarding Institution	Imperial College London	Faculty	Medicine
Teaching Institution	Imperial College London	Department	School of Medicine
Associateship	Imperial College School of Medicine	Main Location(s) of Study	South Kensington Campus & Hammersmith campus

External Reference	
Relevant <a href="#">QAA Benchmark Statement(s)</a> and/or other external reference points	<a href="#">Honours Degree in Biomedical Sciences</a> <a href="#">Honours Degree in Biosciences</a>
<a href="#">FHEQ Level</a>	BSc - Level 6 - Honours
<a href="#">EHEA Level</a>	1 <sup>st</sup> cycle

External Accrator(s) (if applicable)			
External Accrator 1:	N/A		
Accreditation received:		Accreditation renewal:	
External Accrator 2:	N/A		
Accreditation received:		Accreditation renewal:	

Collaborative Provision			
Collaborative partner	Collaboration type	Agreement effective date	Agreement expiry date
N/A			

Specification Details	
Programme Lead	Dr Ana P. Costa-Pereira
Student cohorts covered by specification	2019-20 entry
Date of introduction of programme	October 2017
Date of programme specification/revision	July 2018

### Programme Overview

Our interdisciplinary programme offers an innovative approach to learning.

You will study fundamental human biology and the molecular basis of human disease. Modules on cellular and molecular biology underpin the study of, for example, infectious diseases and immunology, cancer and neurobiology.

During the unique and exciting Lab Pod modules (Years 1 and 2), you will work on real life research questions in a learning environment that mirrors an authentic research laboratory. You will be supported by research active staff, teaching fellows and Graduate Teaching Assistants in exploring a real scientific hypothesis and you will be given opportunities to design, choose and perform experiments appropriate to test this hypothesis.

In addition, the Lab Pod will integrate experiences that will develop and consolidate theoretical topics covered throughout the year. They will encourage you to develop your understanding of the causes of diseases such as cancer, diabetes, neurodegeneration and autoimmunity, and experience how scientists work to develop treatments and cures.

At Imperial, you will be taught by a range of teachers of all levels from Professors to PhD students, including some who undertake groundbreaking research and are regarded as experts in their field. You may also experience peer teaching and be taught by specialists external to the College.

You will learn to think like a scientist with a research-intensive, laboratory-focused curriculum, whilst workshops on critical health issues and modules in science communication and ethics, amongst other topics, will broaden your outlook and employability skills.

Our extensive and fully integrated transferable skills programme is designed to develop personal attributes that employers value, including effective time management and resilience, good interpersonal, leadership, analytical and problem solving skills, as well as an awareness of ethics, coupled with excellent verbal and written presentation skills.

In your third year you will choose specialist modules that are led by disciplinary experts, teaching fellows and active researchers in the appropriate fields. In these modules you will examine global health problems. You will also undertake a final year project. For this project you will have the option to complete a 20-week intensive research project, a work placement, or a dissertation on a biomedical science topic. Placement possibilities may include industry, hospitals, publishing houses, museums, charities and government agencies. The Department has a dedicated Placement Team to support you to secure a placement opportunity.

Students interested in careers which do not involve laboratory research will be given the choice to pursue a shorter final year project, either in the form of a dissertation or placement in any topic related to biomedical sciences. You will be required to complement this with additional taught modules. Students who love human biology but do not share the same enthusiasm for practical research will, therefore, still find their niche in this programme.

Medical Biosciences graduates may, for example, pursue careers as academic researchers, in technical and managerial industry roles, or as journalists and museum curators. The programme also provides an excellent foundation for postgraduate study, enabling you to progress to Master's and PhD programmes.

The programme's emphasis on developing highly sought transferable analytical and research skills will also equip graduates to enter careers in the professional and charitable sectors and in small and medium enterprises.

### Learning Outcomes

Upon successful completion of the programme a typical student will be better able to:

#### On achieving the Cert HE ...

1. Explain the fundamental principles of molecular biology and integrate them with cellular biology thereby illustrating how homeostasis is maintained in the whole organism;
2. Demonstrate independent critical thinking and knowledge of biomedical sciences;
3. Design meaningful experiments with appropriate negative and positive controls, whilst adhering to good lab practice and observing Health & Safety guidelines;
4. Generate thorough records of all experimental data gathered by maintaining a carefully documented Lab Book;
5. Generate a biomedical scientific hypothesis and test in a professional and competent manner by performing experiments,
6. Demonstrate clarity in verbal and written communication and presentation skills;
7. Demonstrate self-awareness, ethical behaviour and a concern for society

#### On achieving the Dip HE, the ILOs (1-7) above and ...

8. Critically solve problems, including experimental troubleshooting and designing tools to address them;
9. Interpret complex data, assimilate it, summarise and communicate it in a more manageable format;
10. Demonstrate excellent verbal and written communication and presentation skills;
11. Generate a curriculum vitae to specifically evidence a job application;

#### On achieving the BSc, all the ILOs (1-11) above and ...

12. Critique current disciplinary knowledge within biomedical science and demonstrate an appreciation of 'hot', controversial or not yet well understood topics;
13. Critically evaluating ways to further disciplinary knowledge and understanding;
14. Demonstrate awareness of critical health problems facing humanity in the 21st century and how these are being, or can be, tackled;
15. Demonstrate a high level of critical self-awareness, ethical behaviour and an evidenced concern for society
16. Generate a professional curriculum vitae and form an evidenced and insightful narrative for a credible job application.

The Imperial Graduate Attributes are a set of core competencies which we expect students to achieve through completion of any Imperial College degree programme. The Graduate Attributes are available at:

[www.imperial.ac.uk/students/academic-support/graduate-attributes](http://www.imperial.ac.uk/students/academic-support/graduate-attributes)

Entry Requirements	
Academic Requirements	<p><u>A level</u></p> <p>Minimum <b>AAA</b> overall</p> <p><b>A</b> in Biology or Human Biology  <b>A</b> in Chemistry, Mathematics, Further Mathematics or Physics</p> <p>Where applicants are studying Mathematics or Further Mathematics, the third subject must be in a non-Mathematics subject.</p> <p><b>Pass</b> in the practical endorsement in all science subjects that form part of the offer. The practical endorsement is part of the reformed English linear A-levels.</p> <p>General Studies and Critical Thinking are not accepted for entry to this programme</p> <p><u>International Baccalaureate (IB)</u></p> <p><b>6</b> in Biology at higher level  <b>6</b> in Chemistry, Mathematics or Physics at higher level</p>
Non-academic Requirements	N/A
English Language Requirement	<p><u>Higher requirement</u></p> <p>IELTS score of 7.0 overall (minimum 6.5 in all elements).</p>
Admissions Test/Interview	There is no admissions test associated with entry to this programme and applicants will not normally be interviewed.
The programme's competency standards documents can be found at: <a href="#">[insert link here]</a>	
Learning & Teaching Approach	
<p><b>Teaching</b></p> <p>You will be taught through a combination of interactive sessions, lectures, team-based learning, seminars, tutorials, laboratory demonstrations and experiments, practical classes and fieldwork, guest lectures and presentations.</p> <p>Seminars will enable you to discuss and develop your understanding of topics covered in lectures whilst in smaller groups of around 14-16 students. The first year of the programme will be made up of core modules which all students on the programme will study. Years two and three will allow you to choose the modules you study. In years 1 and 2 you will learn flexibly through independent self-directed study and in face-to-face sessions where you work in groups of 5-6 people. This is true for both the theoretical modules and the Lab Pods although in the latter you will work in pairs or trios and in larger groups. You will also attend workshops designed to develop transferable skills. In Year 3, you will learn through lectures or seminars and, for the different types of project, in real work environments.</p> <p><b>Independent learning</b></p> <p>Students are expected to spend significant time on independent study outside of face to face contact time. This will typically include accessing resources online, reading journal articles and books, undertaking research</p>	

in the library, reviewing lecture notes and watching lecture recordings, working on individual and group projects, working on coursework assignments and revising for exams.

Medical Biosciences uses flipped teaching, meaning that you need to actively engage with on-line eModules ahead of attending timetabled sessions. This independent learning is followed by sessions where all students work in small groups to apply that knowledge to more practical examples, thereby, further consolidating and enhancing your understanding of the topics you study.

### **Research projects, placements and literature reviews**

During this programme, you can choose to undertake a 20-week long final-year laboratory-based research project embedded in real work environments such as research teams based within Imperial or other academic or pharmaceutical organisations.

Alternatively, you can spend 14 weeks in a work placement inside or outside a research environment, or writing a literature review on a biomedical science-related topic and further engage in two very exciting modules in the areas of creative reflection, science communication and public engagement.

### **Overall workload**

Your overall workload consists of face-to-face sessions (contact hours) 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 College, each [ECTS credit](#) taken equates to an expected total study time of 25 hours. Therefore, the expected total study time is 1500 hours per year.

Typically, in the first two years (levels 4 and 5) you will spend around 20% of your time on lectures, seminars and other scheduled activity (around 300 hours) and around 80% of your time on independent study (around 1200 hours).

In the third year (level 6), should you choose to undertake a placement, you will spend less time in lectures, seminars or other scheduled activity (around 60 hours). Instead, the rest of your time will be split evenly between independent study and a placement (approximately 720 hours on each).

## **Assessment Strategy**

### Assessment Methods

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

#### **Written assessment**

- Essays
- Lay articles/press releases
- Grant applications
- Digital storytelling
- Written examinations
- Report writing
- Scientific papers

#### **Oral assessment**

- Oral presentations
- Digital storytelling
- Poster presentations
- Laboratory practicals

The programme allows you to test your understanding of the subject informally before you complete the formal summative assessments that count towards your final mark. These summative assessments allow you to demonstrate that you have met the intended learning outcomes for each module and contribute towards your achievement of the programme learning outcomes, detailed above. There is formal summative assessment during and/or at the end of each module.

### Balance of assessment

The percentages below are based on a typical pathway through the course and have been rounded to the nearest whole number.

	Year 1	Year 2	Year 3
<b>Coursework</b>	42%	40%	70 %
<b>Practical</b>	5%	6%	30%
<b>Written</b>	53%	54%	0%

### Academic Feedback Policy

Feedback may be provided in one of a number of formats, including:

- Oral (e.g. face to face during or after face-to-face sessions, video)
- Personal (e.g. discussion with staff)
- Interactive (e.g. Team Based Learning, peer-to-peer, online quizzes)
- Written (e.g. solutions, model answers, comments on work which can be used as feedforward)

You will receive feedback on formative, developmental assessments and on summative coursework assessments. Feedback on examination performance is available upon request from the module leader. Feedback is intended to help you learn and you are encouraged to discuss it with your module tutor.

Feedback will be provided on coursework and practical assessments within 2 weeks of submission.

The College'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/](http://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/)

### Re-sit Policy

The College's Policy on Re-sits is available at: [www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/](http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/)

### Mitigating Circumstances Policy

The College's Policy on Mitigating Circumstances is available at: [www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/](http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/)

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
e.g. Equipment (programme materials and books)	Mandatory	Provided
e.g. Personal Protective Equipment	Mandatory	Provided
e.g. Field trips (all fully catered trips)	Mandatory	£25 per week

Programme Structure					
<b>Year 1 – FHEQ Level 4</b>					
<b>Students take all core modules</b>					
Code	Module Title	Core/Elec	Group	Term	Credits
MCB	Molecular and Cellular Biology	Core	N/A	1, 2 and 3	15
CBI	Chemistry of Biological Interactions	Core	N/A	1 and 2	7.5
INTS	Integrative Body systems	Core	N/A	1, 2 and 3	15
STAT	Statistics	Core	N/A	2 and 3	7.5
LP1	Lab Pod I	Core	N/A	1, 2 and 3	15
Credit Total					60
<b>Year 2 – FHEQ Level 5</b>					
<b>Students study all core modules and choose 4 Elective modules from elective Group A</b>					
Code	Module Title	Core/Elec	Group	Term	Credits
GEN	Genetics and Genomics	Core	N/A	1 and 2	7.5
CBIO	Cancer Biology	Core	N/A	2 and 3	7.5
LP2	Lab Pod II	Core	N/A	1, 2 and 3	15
IMI	Immunology and Inflammation	Elective	A	1 and 2	7.5
NEU	Neuroscience	Elective	A	1 and 2	7.5
MHD	Microbiome in Health & Disease	Elective	A	1 and 2	7.5
CTB	Cardiovascular and Thoracic Biology	Elective	A	2 and 3	7.5
PHAR	Pharmacology and Toxicology	Elective	A	2 and 3	7.5
SCRB	Stem Cells and Reproductive Biology	Elective	A	2 and 3	7.5
Credit Total					60

Year 3 – FHEQ Level 6					
Students choose either Laboratory Based Research Project, two modules from Group B/C plus one Open Module; OR, One module from Group D, one from Group E, three modules from Group B and one Open Module.					
Code	Module Title	Core/Elec	Group	Term	Credits
LABP	Laboratory Based Research Project	Elective	N/A	1, 2 and 3	45
PMED	Precision Medicine	Elective	B	1	5
OBD	Obesity and Diabetes	Elective	B	1	5
BOA	Biology of Ageing	Elective	B	2	5
REGM	Regenerative Medicine	Elective	B	2	5
TAR	Targeting Antimicrobial Resistance	Elective	B	2	5
NANO	Nanotechnology & Bioengineering	Elective	B	3	5
DESD	Designing Drugs for the 21 <sup>st</sup> Century	Elective	B	3	5
GLOH	Global Health	Elective	B	3	5
SCPE	Science Communication & Public Engagement	Elective	C	1	5
SCPE2	Science Communication & Public Engagement	Elective	E	1	10
LITP	Literature Based Research Project	Elective	D	1, 2 and 3	30
WPBP	Work Placement Based Project	Elective	D	1, 2 and 3	30
TBC	Open Module	Core	N/A	1, 2 and 3	5 or 7.5
Credit Total					60

Progression and classification
<p><b>Progression</b></p> <p>In order to progress to the next level of study, you must have passed all modules (equivalent to 60 <a href="#">ECTS</a>) in the current level of study at first attempt, at resit or by a compensated pass.</p> <p>The overall weighted average for each year must be 40%, including where a module(s) has been compensated, in order for you to progress to the next year of the programme.</p> <p><b>Classification</b></p> <p>The marks from modules in each year contribute towards the final degree classification.</p> <p>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.</p>

Your classification will be determined through:

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

For this award, Year One is weighted at 7.5%, Year Two at 35% and Year Three at 57.5%.

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

- i) First 70% or above for the average weighted module results
- ii) Upper Second 60% or above for the average weighted module results
- iii) Lower Second 50% or above for the average weighted module results
- iv) Third 40% or above for the average weighted module results

Programme Specific Regulations

Add programme specific regulations here if appropriate, please note that these must be approved by Senate in advance of the programme being delivered.

### Supporting Information

The Programme Handbook is available at: [Insert link](#)

The College's entry requirements for postgraduate programmes can be found at:  
[www.imperial.ac.uk/study/pg/apply/requirements](http://www.imperial.ac.uk/study/pg/apply/requirements)

The College's Quality & Enhancement Framework is available at:  
[www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance](http://www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance)

The College's Academic and Examination Regulations can be found at:  
[www.imperial.ac.uk/about/governance/academic-governance/regulations](http://www.imperial.ac.uk/about/governance/academic-governance/regulations)

Imperial College 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 the College's Centenary, 8th July 2007, established the College as a University with the name and style of "The Imperial College of Science, Technology and Medicine".  
[www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/](http://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/)

Imperial College London is regulated by the Office for Students (OfS)  
<https://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 a typical student may reasonably be expected to achieve and demonstrate if s/he takes 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.**

### Modifications

Description	Approved	Date	Paper Reference
e.g. Nature of modification	e.g. Programmes Committee	dd/mm/yy	e.g. PC.2016.120