

Programme Information		
Programme Title	Programme Code	HECoS Code
Cancer Biology Cancer Biology (Cancer Informatics)	A3CB	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MRes	1 Calendar Year (12 months)	Full-time	Annually in October	90	180

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Medicine
Teaching Institution	Imperial College London	Department	Surgery and Cancer
Associateship	N/A	Main Location(s) of Study	Hammersmith Hospital

External Reference	
Relevant QAA Benchmark Statement(s) and/or other external reference points	N/A
FHEQ Level	Level 7
EHEA Level	2nd Cycle

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

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 Olivier Pardo
Student cohorts covered by specification	2020-21 entry
Date of introduction of programme	October 2009
Date of programme specification/revision	July 2020

Programme Overview

Key

MRes	MRes Cancer Biology programme
CB	Cancer Biology stream
CI	Cancer Informatics stream

The programme is aimed at students interested in furthering their understanding of and proficiency at experimental and computational research in the field of Cancer biology. While this Master will provide foundations of theoretical knowledge in area relevant to Cancer, it is heavily research-oriented as underscored by the 10 months spent by students in research laboratories or carrying out original data/literature analysis. Students completing this course will be able to continue a career in biological research (eg. PhD, biotech industry) or join career paths where an advance knowledge and understanding of cancer research is advantageous (eg. journalism, patent office, financial institutions).

Module 1 – all streams

Blended learning taught module, covering the cellular and molecular basis of cancer biology, as well as an introduction to the clinical and pathological aspects of carcinogenesis and treatment. Includes workshops, statistics, and advanced research career skills such as peer review other transferable skills.

Module 2 – specialised/elective

- **CB** – Blended learning taught module, covering wet lab skills, lab etiquette, data analysis, and communicating science to expert and lay audiences.
- **CI** – Blended learning taught module utilising demonstrations and workshops to train students in fundamental computational and bioinformatics techniques, ethics, and communicating science to expert and lay audiences.

Projects 1 + 2

You will conduct two 20-week project modules based on their stream choice.

Wet-lab/dry lab projects (as appropriate) undertaken primarily within the [Cancer research theme](#) at Imperial College London. Some opportunities will be available for projects at other organisations such as the Bart's Cancer Institute, the Francis Crick Institute, GlaxoSmithKline, the Institute of Cancer Research, and the Medical Research Council.

Learning Outcomes

By the end of this programme, you will be able to:

1. Expertly apply the principles and practice of modern molecular medicine, cellular, and physiological science to promote the prevention, diagnosis and treatment of cancer;
2. Critique research within a wider scientific/clinical context;
3. Formulate a sound research hypothesis and design a research plan to address this hypothesis and collect experimental data to propose follow-on work;
4. Identify novel research opportunities within the field of cancer biology/oncology;
5. Communicate their science effectively to peers, experts in the field, and lay audiences;
6. Assess how to conduct scientific research ethically and with integrity;
7. Interpret complex research data accurately and synthesise appropriate conclusions;
8. Produce research reports to a standard suitable for peer-reviewed publication;
9. Integrate effectively into a team of professional scientists, often in a multidisciplinary environment.

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

Entry Requirements	
Academic Requirement	The minimum requirement is normally a 2:1 UK Bachelor's Degree with Honours in an appropriate science subject (or a comparable qualification recognised by the College).
Non-academic Requirements	Cancer Biology stream only: relevant lab experience (e.g. Bachelor's Degree wet-lab project and dissertation).
English Language Requirement	Standard requirement IELTS score of 6.5 overall (minimum 6.0 in all elements)
Admissions Test/Interview	Generally, offers are made based on the strength of the application and following discussion by the two stream admissions tutors. Should the admissions tutors require additional information in order to make a decision, the applicant will be contacted in order to arrange a phone/skype call with one of the admissions tutors.

The programme's competency standards documents can be found at:
<http://www.imperial.ac.uk/students/academic-support/graduate-attributes/>

Learning & Teaching Approach

Modules 1 and 2 are blended learning taught modules, which will make use of pre-sessional tasks, supported workshops, practical sessions, student-lead learning, active learning techniques, as well as more traditional lectures. Working with collaborators (e.g. The Crick, Imperial Clinical Trials Unit), field trips and shadowing may also be available.

Work-based learning is the focus of the programme when you undertake the two research project modules.

Assessment Strategy

Assessment Methods

www.imperial.ac.uk/staff/educational-development/teaching-toolkit/assessment-and-feedback/

Module	Name	% of Module	Module ILOs
Module 1	Book Chapter Presentation	30%	1
	Online Outreach Task	70%	1, 2
	Statistics	0%	3
Module 2	Stream Assignment	100%	See below
Project 1 (CB stream)	Literature review	20%	
	Thesis	40%	1 to 5, 8, 9
	Viva	20%	1 to 4, 6, 8
	Poster	20%	6, 7
Project 1 (CI stream)	Thesis	60%	1 to 5, 8, 9
	Viva	20%	1 to 4, 6, 8
	Poster	20%	6, 7
Project 2 (CI stream)	Thesis	60%	1 to 5, 8, 9
	Viva	20%	1 to 4, 6, 8
	Mock Grant Application	20%	4 and 7
Project 2 module (CB stream)	Thesis	60%	1 to 5, 8, 9
	Viva	20%	1 to 4, 6, 8
	Mock Grant Application	20%	4 and 7

Stream	Stream Assignment(s)	Module 2 ILOs
CB	1. Study Design 2. Critical Literature Review	1 to 4
CI	Informatics Assignment	2 to 4, 6,7

Each assessment is designed to test your appropriate acquisition of separate skills required for the furthering of a career in cancer biology research and associated professional paths.

The Book Chapter presentation assess your ability to condense a body of knowledge on a subject treated in the course textbook and orally present this summary clearly with the help of visual tools.

The Online Outreach Task tests your skills at conveying a threshold concept of Cancer Biology to a lay audience using a short video presentation designed for online publishing.

The Statistics assessment will test your understanding of various commonly used statistical methods and their applicability to different types of data. This assessment does not carry any weight as it will be possible to retake the test as many times as necessary until your adequate understanding of these principles is demonstrated.

The Study Design assignment will test your ability to design a study coherently based on a sound experimental plan supported by adequate statistical considerations and grasping of technical limitations.

The Critical Literature Review will assess your aptitude to critically analyse a piece of published scientific literature, highlighting the likely scope of the findings and limitations of the work including ethical considerations.

The Project Thesis will judge your skills at presenting, describing and critically discussing your own experimental data in the format typical of an article published in peer-reviewed journals. Additionally, progress between the Thesis for project 1 and 2 will be assessed in terms of improvement in clarity of data presentation, precision of data description and relevance of proposed follow-up work. For CB students, the project 1 module written assessment will be submitted as a research portfolio, comprising the literature review and thesis.

At the Viva, you will be assessed on your ability to present your research to your examiners with the help of visual tools in a clear, concise fashion, summarising your findings and their relevance. You will also be tested on your ability to answer questions directly relevant to your project, including on theoretical and practical knowledge of the subject area, of the experimental techniques used and their limitations as well as the proposed follow-on work. Additionally, progress between the Viva for project 1 and 2 will be assessed in terms of clarity of the oral presentation, confidence of the student in answering questions and mastery of the research subject.

Academic Feedback Policy

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/

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/

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/

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
Programme Textbook: The Biology of Cancer, Robert A. Weinberg	Mandatory	Provided
Printing of poster for assessment	Mandatory	Provided
Travel to project lab location	Mandatory	As applicable

Programme Structure					
Year 1					
Students study all core modules.					
Code	Module Title	Core/ Elective	Group	Term	Credits
M1	Module 1	Core	N/A	1	5
M2	Module 2 (Specialised based on stream)	Elective	N/A	1	5
SURG70027	Project 1	Core	N/A	1-4	40
SURG70028	Project 2	Core	N/A	1-4	40
Credit Total					90

The Pass Mark for all **elements** is 50%.

You must pass all modules in order to be awarded a degree.

Final Degree Classifications

In order to be awarded a result of **pass**, you must obtain an aggregate mark of at least 50%.

In order to be awarded a result of **merit**, a candidate must achieve at least 60 per cent in each element; in order to be awarded a result of **distinction**, a candidate must achieve at least 70 per cent in each element.

Where appropriate, a Board of Examiners may award a result of merit where a candidate has achieved an aggregate mark of 60 per cent or greater across the programme as a whole AND has obtained a mark of 60 per cent or greater in each element with the exception of one element AND has obtained a mark of 50 per cent or greater in this latter element.

Where appropriate, a Board of Examiners may award a result of distinction where a candidate has achieved an aggregate mark of 70 per cent or greater across the programme as a whole AND has obtained a mark of 70 per cent or greater in each element with the exception of one element AND has obtained a mark of 60 per cent or greater in this latter element.

Candidates should only be considered for promotion to pass, merit or distinction if their aggregate mark is within 2.5 per cent of the relevant borderline. Nevertheless, candidates whom the Board deems to have exceptional circumstances may be considered for promotion even if their aggregate mark is more than 2.5 per cent from the borderline. Detailed records of all decisions should be recorded in the minutes of the meeting of the Board.

Supporting Information

The Programme Handbook is available upon enrolment.

The Module Handbook is available upon enrolment.

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

The College's Quality & Enhancement Framework is available at:
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

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/

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 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
Course modules amendments to allow for COVID-19-resilient format	e.g. Programmes Committee	dd/mm/yy	e.g. PC.2016.120