For good practice guidance in completing this document, please refer to *'Information for Students: guide to providing information to prospective undergraduate students'* (QAA).

Programme Information		
Programme Title	**Programme Code**	**HECoS Code**
Cancer Technology	For Registry Use Only	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 Engineering
Teaching Institution	Imperial College London	Department	Bioengineering
Associateship	Royal School of Mines	Main Location(s) of Study	South Kensington Campus
External Reference			
Relevant QAA Benchmark Statement(s) and/or other external reference points		Master's Award in Engineering	
FHEQ Level		Level 7 - Masters	
EHEA Level		2nd Cycle	
External Accreditor(s) (if applicable)			
External Accreditor 1:	N/A		
Accreditation received:	YYYY	Accreditation renewal:	YYYY
External Accreditor 2:			
Accreditation received:	YYYY	Accreditation renewal:	YYYY
Collaborative Provision			
Collaborative partner	Collaboration type	Agreement effective date	Agreement expiry date
Institute of Cancer Research	Cross-Disciplinary Teaching at Imperial South Kensington	3 October 2020	N/A

Specification Details	
Programme Lead	Dr Sam Au
Student cohorts covered by specification	2020-21 entry
Date of introduction of programme	October 20
Date of programme specification/revision	December 19

Programme Overview

The MRes in Cancer Technology programme provides an immersive environment where you will develop a unique understanding of cancer from an engineering perspective in addition to state-of-the-art in technologies used to understand, treat, and diagnose this disease. You will also gain useful skills in engineering, research and statistical analyses before embarking on a comprehensive, 9-month research project. Both the taught and research elements of this degree programme are multi-disciplinary. We bring in lecturers from across Imperial and Institute of Cancer Research; and place each student on a multi-disciplinary research project jointly supervised by academics with engineering/technological and biological/clinical expertise. Students are encouraged to approach potential supervisors before applying for the program to discuss suitability. Students will have an opportunity to discuss with supervisors about potential projects in the Autumn term and will choose projects before the start of the Spring term.

The programme is delivered by the Department of Bioengineering and is based at the South Kensington and White City Campuses. However, the research project can be conducted in any laboratory based in the Faculty of Engineering, Faculty of Natural Sciences, Faculty of Medicine, and the Institute of Cancer Research. The programme builds on the Department's strength in bioengineering technologies for cancer, and the collaboration between the College and other leading cancer organisations such as the Institute of Cancer Research.

The programme is the first of its kind in the UK and equip you for on-demand research careers in academia and industry within the growing field of engineering and technology in cancer. Students will be particularly well equipped for cross-disciplinary PhD programs such as the Convergent Science PhD Programme run jointly between Imperial College and the Institute of Cancer Research. This training will be facilitated by cross-disciplinary interactions between leading engineers, life scientists, medics, and clinicians.

Learning Outcomes

- Develop a critical understanding of the fundamentals of cancer progression and current challenges in cancer management.
- Design and Execute research experiments in the field of cancer research using your knowledge of core and specialised engineering concepts (e.g., machine learning, microfluidics, signal processing, imaging, blood sampling).
- Analyse and evaluate the outcome of your experiments using a variety of research techniques (e.g., collection and analysis of experimental data, design and refinement of experiment, computer simulations, synthetic techniques, technical report writing and effective oral presentation.
- Coordinate and liaise effectively with other researchers and students (inter-personal skills).
- Critically analyse scientific studies and existing Cancer Technology knowledge so as to assess how they could be improved and be made more sustainable and / or commercially viable and evaluate accordingly.
- Apply knowledge of engineering, physics and mathematics and cancer to new engineering or research projects, so as to translate their knowledge and skills to unfamiliar situations.
- Effectively plan and execute scientific research in a safe and productive manner.
- Analyse results, determine their strength and validity, interpret conclusions and make recommendations for future experimental studies.
- Plan, conduct, write-up and present the findings of a lengthy programme of original research and prepare scientific publications with an awareness of the relevant scientific literature.
- Communicate effectively through oral presentations, an oral exam (viva), and written reports, whether in concise form (research proposal) or extended format (dissertation).

Mastery of bioengineering research within cancer is a complex and specialised field. The Cancer Technology Research Project and its close supervision by academics will train students with cutting edge research capabilities.

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	You are expected to have at minimum a 2.1 UK Honour's degree in an engineering discipline, physical science or mathematical subject or equivalent. Students with a minimum 2:1 UK Honour's degrees in medical science, biology or cancer related subject may be admitted if they have a demonstrated track record of training or engagement in engineering, biophysics, cancer technologies or mathematics.
Non-academic Requirements	N/A
English Language Requirement	Standard requirement (PG)
Admissions Test/Interview	N/A

The programme's competency standards documents can be found at: The Department of Bioengineering Teaching Office upon request

Learning & Teaching Approach

Scheduled Learning & Teaching Methods	• Demonstrations • Group exercises • Guided practical classes • Laboratory work • Lectures • Research project • Presentations • Seminars • Workshops
E-learning & Blended Learning Methods	• Virtual Learning Environment: Blackboard • Online groups/discussions • Online quizzes and interactive content • You tube videos • Anonymous feedback • Lectures recorded using Panopto
Project Learning Methods	• Group and individual project work
Placement Learning Methods	• NA

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 is 2,250 hours per year.

For Taught elements, held solely during the Autumn term, you will typically spend 81 hours in lectures and tutorials, with 294 hours of individual study. You will also typically spend 1700 hours undertaking Research elements held over the course of the degree.

Assessment Strategy

Assessment Methods

Taught elements will be assessed during the Autumn term using a combination of:
- Written examinations (open and closed book)
- Oral presentations
- Written reports, including a dissertation
- Coursework including progression tests, problem sheets
- Practical training elements

Research elements will be assessed at regular intervals throughout the degree using a combination of:
- Written Reports & Final Thesis
- Oral presentations
- Poster Presentations

Academic Feedback Policy

Feedback may be provided in one of a number of 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 cohort and academic tutors)
- Interactive (problem solving tutorials with GTAs & study groups, peer feedback)
- Written (solutions/model answers to coursework, electronic feedback online)

Deadlines for submission of assessments and to receive feedback are indicated in the coursework calendars provided before the start of the teaching year. You will usually be provided with feedback within 10 working days although on occasions they may be informed of a different time scale (e.g. if the submitted work is particularly complex and will take a long time to mark).

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
Textbooks	Mandatory	£150
Personal Protective Equipment	Mandatory	Provided

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]					
FHEQ Level 7 **Students study all core modules. Detail the rubric for choosing elective modules e.g. Students choose two electives from Group A**					
Code	Module Title	Core/ Elective	Gro up	Term	Credits
	Bioengineering Approaches to Cancer	Core		Autumn	5 ECTS
	Statistical and computational methods for research	Core		Autumn	5 ECTS
	Frontiers in Cancer Technology Research	Core		Autumn	5 ECTS
	Topics in Cancer Engineering	Core		Autumn	5 ECTS
	Cancer Technology Research Project	Core		All	70 ECTS
				Credit Total	90 ECTS

---

[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.

Progression and Classification

Award of a Postgraduate Degree (including MRes)
To qualify for the award of a postgraduate degree a student must have:
1. accumulated credit to the value of no fewer than 90 credits at level 7 or above of which no more than 15 credits may be from credit level 6;
2. and no more than 15 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

1. Distinction: The student has achieved an overall weighted average of 70.00% or above across the programme.
2. Merit: The student has achieved an overall weighted average of above 60.00% in but less than 70.00%.
3. Pass: The student has achieved an overall weighted average of 50.00% but less than 60.00%.

a. Students must normally achieve a distinction (70.00%) mark in both Taught and Research elements in order to be awarded a distinction.
b. Students must normally achieve a minimum of a merit (60.00%) mark in both Taught and Research elements in order to be awarded a merit
c. Modules taken at level 6 as part of the programme specification for a named postgraduate award will contribute to the determination of pass, merit or distinction for any taught postgraduate award and are included in the calculation of the overall weighted average.

Programme Specific Regulations
N/A

Supporting Information
The Programme Handbook is available at: TBC
The Module Handbook is available at: http://www.imperial.ac.uk/bioengineering/admin/current-ug/options/
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