

Programme Information		
Programme Title	Programme Code	HECoS Code
Genes, Drugs and Stem Cells – Novel Therapies	A3TS A3TSC	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MSc (A3TS)	1 calendar year (12 months)	Full-Time	Annually in October	90	180
PG Cert (A3TSC)	4 months	Part-Time	Annually in October	30	60

Students can apply directly to either the PG Cert or the full MSc programme. Students who have applied for the full MSc must successfully complete all core modules before proceeding to the advance module.

Students who successfully complete the PG Cert are eligible to return to the programme within 5 years to complete the full MSc.

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Medicine
Teaching Institution	Imperial College London	Department	National Heart and Lung Institute
Associateship	NHLI	Main Location(s) of Study	Royal Brompton Campus

External Reference	
Relevant QAA Benchmark Statement(s) and/or other external reference points	There are no other programmes in the UK, EU or overseas that provide the unique combination of hot topics that this programme aims to bring.
FHEQ Level	Level 7 - Master's
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	Professor Uta Griesenbach
Student cohorts covered by specification	2022-23 entry
Date of introduction of programme	October 19
Date of programme specification/revision	October 22

Programme Overview

The MSc in Genes, Drugs and Stem Cells-Novel Therapies is a unique combination of “hot topics” within the field of human health and disease. It will comprise three streams:

- Gene and Nucleic Acid Based Therapies
- Regenerative Medicine
- New Horizons in Pharmacology

The programme will make use of the extensive and unique expertise available in these areas within the National Heart and Lung Institute and the wider College. Teaching will be delivered by academic and clinical researchers at the cutting edge of these fields. The main purpose of this programme is to highlight and teach key advances in these rapidly developing areas of science and medicine and to facilitate state-of-the-art education for the next generation of scientist and clinicians, who we will equip to pursue successful careers in these areas, so they can contribute to future research successes. When designing the programme, we consulted widely with NHS and corporate representatives and also heard from and incorporated the opinion of scientists and students to ensure the content is compatible with demands of future employers and employees to ensure that you will have a wide range of graduate-level career options open to them on graduation. These include continued post-graduate education (PhDs), employment by small biotech companies and large pharmas involved in drug development.

The “stream-based” programme structure and a combination of stream-specific core modules as well as compulsory modules covering contents from all three streams gives you maximum flexibility to gain in depth knowledge within a specific interest area, while at the same time providing key foundation knowledge in each key specialty to all students. It is this provision of teaching in all three areas to all students which makes our programme unique. In addition to offering a master’s degree, the four core modules will also form the content of a Postgraduate Certificate, to maximise student choice.

In addition to the above, another objective is to provide training in translational research illustrating all steps required to progress novel therapies from bench-to-bedside. Wherever applicable we will highlight the multi-disciplinary nature of translational research to open your minds to the various career opportunities in these areas of science and medicine. There will also be a focus on commercialisation strategies (including interaction with industry and health economics).

Learning Outcomes

On completion of the PG Cert in Genes, Drugs and Stem Cells -Novel Therapies you will be able to:

1. Communicate with clarity, complex concepts on novel therapies to broad range of audiences; within and across scientific disciplines and to non-scientific audiences;
2. Analyse a dataset producing high quality, research paper standard graphical representations and figure legends;
3. In teams construct convincing commercialisation strategies for novel therapies, to be delivered verbally and in writing;
4. Use teamwork to create and deliver compelling societal engagement activities that will showcase your creative ideas and widen awareness of novel therapies;
5. Persuade a simulated review panel to fund a funding proposal, developed through careful consideration of: the most recent advances in (either) genes, drugs or stem cells therapies; and exploration of past controversies, challenges, high-profile successes and failures.

On completion of the MSc in Genes, Drugs and Stem Cells -Novel Therapies, in addition to the learning outcomes above, you will also be able to:

6. Negotiate which novel therapy design ideas, generated in a team-based brainstorming Hackathon, should be blended to produce a functioning product in the Imperial Hackspace;
 7. Apply cutting-edge research techniques, contributing to advancement of novel therapies;
 8. Conduct experiments designed to rigorously test a hypothesis within a wider, highly topic research question;
 9. Critically analyse research data, interrogating it throughout the research project to inform experimental direction;
 10. Evaluate research project data in the context of relevant, current literature, critiquing your own and published data;
 11. Present research findings as an extended written report and deliver an oral defence;
 12. Propose new future experiments and directions for novel therapies, advancing therapeutic frontiers.
- Learning outcomes for the elective Advanced Study modules are identical, but the content will be topic-specific

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	<p>Normally an upper second class (2.1.) Bachelor's degree Honours within a relevant biological subject from a UK university or equivalent.</p> <p>For the direct entry to the MSc you will be required to have passed the PG Certificate in Genes, Drugs and Stem Cells-Novel Therapies. You must complete the MSc within 5 years of registering for the Postgraduate Certificate.</p> <p>NHLI is committed to supporting the most outstanding scientist regardless of age, disability; gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation.</p> <p>One of NHLI's Athena Silver SWAN objectives is to ensure that students with extenuating circumstances are considered. Thus, a candidate with a degree below the programme's entry requirement, but who has extenuating circumstances may be considered under this objective with the provision of full transcripts, description of extenuating circumstances and two independent supportive references.</p> <p>A candidate with a degree below College's 2.2. entry requirement, but who has at least three years relevant work experience after graduation and has two supportive references on file may be considered under the College's special circumstances policy www3.imperial.ac.uk/registry/proceduresandregulations/qualityassurance/specialcases/masterslevelprogrammes</p> <p>The programme will not be suitable for entrants without degree level knowledge of a relevant biological subject.</p> <p>For further information on entry requirements, please go to https://www.imperial.ac.uk/study/pg/apply/requirements/pgacademic/</p>
Non-academic Requirements	Not applicable
English Language Requirement	<p>Standard requirement Please check for other Accepted English Qualifications</p>
Admissions Test/Interview	All applicants will be interviewed. This will generally be in the form of a 20 min interview via MS Teams

The programme's competency standards documents can be found at: TBC

Learning & Teaching Approach

Learning and Teaching Delivery Methods

In addition to lectures all modules will contain components of team-based and problem-based learning as well as pre-session flipped classroom and e-learning. Teaching is inclusive and Blackboard Learn will be used to facilitate communication and access to all teaching materials. Laboratory skills will be developed through relevant laboratory practicals and a 6 month research project. Teaching will be delivered by internal and external experts in the relevant fields. In addition, you will be expected to learn independently. Group sizes will be approximately 40 students in the core/compulsory modules and ~15 students in the advanced study modules.

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 2250 hours per year.

During the 12 months MSc course you will spend 50% of time as part of the 6 months taught component which will consist of approximately 500 hrs of independent learning and 500 hrs in contact with lecturers/educators. The remaining time will be spent in the form of a 6 month research project.

Assessment Strategy

Assessment Methods

A range of formative and summative assessments will be used including, but not limited to, journal clubs, data analyses, poster presentations, writing tasks as well as the development of a public engagement activity and a drug commercialisation strategy. Additional assessment will include the development of a funding application and the preparation of a research project report.

Academic Feedback Policy

Formative:

You will receive oral or written feedback from lecturers or peer feedback from fellow students.

Summative:

You will receive oral or written feedback from lecturers/educators on all summative assessments. Feedback will generally be given within 2 weeks after the assessment

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
No additional costs are anticipated	Not applicable	Not applicable

Programme Structure¹

Year 1 – FHEQ Level 7

For a Postgraduate Certificate you will study the four compulsory/core modules.

For a Masters you will study the four compulsory/core modules. In addition, you will choose one of the elective Advanced Study Modules and conduct a compulsory research project.

Code	Module Title	Core/ Elective	Term	Credits
NHLI70017	Evidence, Information, Communication	Compulsory	1	7.5
NHLI70018	Core Studies in Gene and Nucleic Acid-based Therapies	Core	1	7.5
NHLI70019	Core Studies in Regenerative Medicine	Core	1	7.5
NHLI70023	Core Studies in New Horizons in Pharmacology	Core	1	7.5
NHLI70021	Advanced Studies in Gene and Nucleic Acid-based Therapies	Elective	2	15
NHLI70022	Advanced Studies in Regenerative Medicine	Elective	2	15
NHLI70020	Advanced Studies in New Horizons in Pharmacology	Elective	2	15
NHLI70024	Research Project	Core	2+3+4	45
Credit Total				90

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.

Award and Classification for Postgraduate Students

Award of a Postgraduate Certificate (PG Cert)

To qualify for the award of a postgraduate certificate a student must have a minimum of 30 credits at Level 7

Award of a Postgraduate Degree

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;
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

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

1. Distinction: Students will need to achieve an overall weighted average of 70.00% or above across the programme, as well as a minimum of 70.00% in the Research Project.
2. Merit: Students will need to achieve an overall weighted average of above 60.00% but less than 70.00% across the programme, as well as a minimum of 60.00% in the Research Project.
3. Pass: Students will need to achieve an overall weighted average of 50.00% but less than 60.00% across the programme, as well as a minimum of 50.00% in the Research Project.

Please find the full Academic Regulations at <https://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

1. In-course assessments (ICAs) labelled as “must not pass” can be awarded a compensated pass if between 40.00-49.99% in modules taken at credit level 7 (all modules). All ICAs labelled as “must pass” must be passed $\geq 50.00\%$ in modules taken at credit level 7 (all modules).
2. Students have to achieve an aggregate module result of $\geq 50.00\%$ for modules with level 7 credits (all modules)
3. A compensated pass cannot be offered for modules counting towards the Postgraduate Certificate (direct entry or where offered as an exit award).
4. At the discretion of the exam board a compensated pass can be awarded for up to a maximum of 15 ECTS credits in Evidence, Information and Communication and in the Advanced study modules for MSc awards.
5. A compensated pass cannot be awarded for any of the core modules or for the research project.
6. Every assessment can be repeated once in the ongoing academic year or in the subsequent academic year
7. All decisions related to resits and/or compensation will be taken by the exam board.

Supporting Information

The 2022-23 Programme Handbook is available on Blackboard [here](#).

Module information is available in the [2022-23 Programme Handbook](#) on Blackboard.

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