| Programme Information | | | |
|---|---|---|---|
| Programme Title | | Programme Code | HECoS Code |
| MRes Translational Research in Surgery, Perioperative and Critical Care (TR-SPC) | | A150 | 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 |
| All students must apply to and join the MRes programme. | | | | | |

| 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 | | Masters award in biomedical science and biomedical sciences | |
| 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 |
| External Accreditor 2: | 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 | | Piers Boshier and Sanooj Soni. | |
| Student cohorts covered by specification | | 2026-27 entry | |

| Date of introduction of programme | October 26 |
|---|---|
| Date of programme specification/revision | December 24 |

## Programme Overview

**Title: Master of Research: Translation Research in Surgery, Peri-operative and Critical Care (TR-SPCC)**

**Description**: The complexity of modern surgical procedures, coupled with the challenged of peri-operative and critical care, necessitates a multidimensional approach to education and training in this field. This new MRes recognises Imperials world leading status in translational research within SPCC. Translation research, embodied by the term "bench to bedside", endeavours to accelerate innovations in basic science directly to clinical practice where they can benefit patients. Central to this a commitment to interdisciplinary convergence science to better understand and model mechanisms of disease and development of novel technologies towards clinical application.

The proposed MRes programme is strategically positioned to address this need by fostering collaboration between clinicians and researchers to tackle key challenges in surgical practice, perioperative and critical care (SPCC). By combining rigorous academic instruction with practical experience and research opportunities, the program aims to cultivate a new generation of leaders capable of driving innovation and enhancing the delivery of care in SPCC medicine.

**Audience:** The Translational Research in Surgery, Perioperative and Critical Care (SPCC) MRes offered by the Department of Surgery and Cancer welcomes students from biomedical science, clinical (MBBS), allied healthcare professional and engineering-related backgrounds. The programme meets the growing demand amongst these students for more opportunities for interdisciplinary learning and research in SPCC. This is evidenced though our own discussions with existing masters students within the Department of Surgery and Cancer as well as the College's own market research which underpins the creation of Imperial Futures Schools of Convergence Science.

**Programme overview:** The programme will train you to adapt, develop and trial new models of scientific exploration to accelerate innovations into clinical practice in SPCC. You will learn how health innovations are advanced from a hypothesis all the way to implementation. There is a strong emphasis on a convergence science approach that leverages the expertise of individuals from different backgrounds and disciplines to tackle major healthcare challenges. The programme will emphasise the link between basic science and clinical practice and the ethical and regulatory steps needed for this process to be successful. Knowledge and skills acquired during the programme are intended to prepare you to for further training in the form of an interdisciplinary PhD in biomedical science and/or future leadership roles within healthcare and aligned industries.

**Programme aims:** The MRes in TR-SPCC aims to
1. Equip the Next Generation of Clinical and Academic Leaders to Deliver Impactful Translational Research: This programme intends to prepare you for higher learning and future careers in healthcare translational science within academia, clinical practice and industry.

2. Cultivate Critical and Innovative Thinking: Encourage advanced critical thinking, data interpretation, and creative problem-solving skills to address contemporary challenges in surgical, perioperative and critical care (SPCC) research.

3. Promote Interdisciplinary Collaboration: Instil a collaborative mindset, enabling you to engage with professionals from different disciplines including basic science, engineering, data science, pharmacology, and clinical care to develop innovative solutions to complex healthcare challenges.

4.  Develop Advanced Research Expertise: Equip you with comprehensive skills to design, execute, and critically interpret high-quality interdisciplinary research specific to SPCC science, integrating in vitro, in vivo, and clinical models.

5.  Accelerate Translational Research Impact: Foster the capability to translate discoveries in a range of research domains such as molecular biology, personalised medicine, data science, imaging and interventional science, into applications that enhance patient outcomes in SPCC contexts.

**Broad structure:** The MRes program spans a year of full-time study and is structured to provide you with a comprehensive educational experience using a broad range of learning strategies. Key components of the curriculum include:

*Module 1. Framework for innovation (5 ECTS).* In the first of two taught modules you will learn how to identify, contextualise and address unmet healthcare challenges in SPCC through innovative and interdisciplinary translational research. During this module you will undertake a short observership to experience first-hand how particular clinical challenges may be addressed through translational research. Observerships are seen as an important way for you to contextualise particular clinical challenges and to understand how clinicians and scientists may adopt a translational research strategy to bring about an improvement in patient care. Time will be allocated each week for "icebreaker" and group activities aimed at building relationships and facilitating group working.

*Module 2: Frontiers of translation research. (5 ECTS).* The second taught module will be delivered during the first and second terms overlapping with modules 3 and 4. In this module you will explore emerging frontiers in SPCC Translational research. The module will be divided into four core themes: (i) models of human disease; (ii) precision medicine; (iii) imaging and interventional science, and; (iv) bioinformatics and artificial intelligence.

*Module 3: Project design in translational research (20 ECTS).* The module will run in continuity with the research project and is a chance for you to explore and critically appraise the existing evidence around your chosen area of study. On that basis you must identify an achievable objective and aims for your own research project. You will be expected to create and justify the chosen methodology to achieve these aims. You will be able to use this module to undertake other activities that may be relevant to your project including, necessary training and approvals, method development.

*Module 4: Research project (60 ECTS).* The research project represents the largest module within the MRes and reflects a sustained period of focused research on a chosen SPCC topic.

## Learning Outcomes

Upon successful completion of the programme, you should be able to:

1.  Collaborate effectively within interdisciplinary teams, integrating and valuing perspectives from individual from different backgrounds including clinical, basic science and bioengineering to advance translational research goals in SPCC.
2.  Critically appraise existing evidence in SPCC fields with a view to identifying areas of unmet need.
3.  Identify and contextualise how interdisciplinary collaboration can advance care practices and improve patient outcomes in SPCC.
4.  Articulate research aims, methodological approach and potential impact.
5.  Develop and implement robust research protocols, including formulating research hypotheses, applying appropriate study designs, data curation and interpretation
6.  Integrate ethical and regulatory principles into the conduct of SPCC research considering factors such as patient safety, consent, data integrity, and regulatory compliance.

7. Use state of the art methodologies and technologies appropriate to SPCC research, such as novel models of human disease, high-resolution imaging, high-throughput sequencing, machine learning, and computational models.
8. Define how personalised diagnostics and targeted interventions can be tailored to individualise patient care within SPCC settings.
9. Convey complex research findings in SPCC through a range of oral and written modes to both lay and scientific audiences.

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: https://www.imperial.ac.uk/about/education/our-graduates/

## Entry Requirements

| Academic Requirement | The minimum requirement is normally a 2:1 UK Bachelor's Degree with Honours in a biomedical science, allied healthcare related discipline or engineering based subjects, or an MBBS (or a comparable qualification recognised by the College). Applicants with other life science degrees, or lower degree qualification but at least three years' work experience may be considered<br><br>For further information on entry requirements, please go to: PGT: www.imperial.ac.uk/study/apply/postgraduate-taught/entry-requirements/ |
|---|---|
| Non-academic Requirements | None |
| English Language Requirement | Higher requirement<br>Please check for other Accepted English Qualifications |
| Admissions Test/Interview | Candidates may be invited for interview in person or online if the review panel need further clarification of clinical knowledge and experience, analytical ability, motivation and interest in the programme, understanding of the programme content and expectations of future progression. |

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

## Learning & Teaching Approach

**Learning and Teaching Delivery Methods**
A range of learning and teaching approaches will be used throughout the programme to ensure you receive comprehensive training in SPCC translational research.

You will learn through a series of lectures, seminars and interactive experiences that are intended to deliver the programme content and develop a collaborative way of working. The observership within module 1 offers you an authentic interdisciplinary understanding of work within SPCC and more deeply connects you to challenges that they will face during their research projects.

The objectives of modules 3 and 4 will be met largely through close interaction with research supervisors and well as self-directed learning. Core research topics such as the methodology for conducting a systematic literature review will be taught through lectures, online learning and interactive sessions with experts. Frequent small group tutorials will offer a forum for opportunistic teaching on topics of your choosing as well as peer to peer learning.

## Assessment Strategy

### Assessment Methods

Taught content will be assessed through a combination of summative assessments in the forms of written assignments, small group projects and presentations.

These assessments expect you to examine all aspects of the translational research pathway that support an innovation to clinical practice. They will encourage you to contextualise your learning and research project within the wider field of translational science. You will be frequently assessed on your critical evaluation of evidence, quality of scientific arguments and written and oral presentation skills.

Your projects will be assessed throughout modules three and four in the form of a: formal literature review; research proposal; presentation of research findings, and; dissertation.

There will also be regular opportunity for formative assessment and feedback from tutors and peers during group discussions and other interactive activities. You will receive verbal and written feedback for each formative assessment. This feedback will reflect both on the content of your work as well as writing style and presentation. Moderated by the tutor you will be asked to provide constructive peer to peer feedback within your groups.

Summative assessments will be double marked (by module leads and other faculty) normally within two working weeks of submission with provisional marks and feedback comments provided so that you may incorporate suggestions into future work.

### Academic Feedback Policy

You will receive feedback on your progress in several ways. Observations and verbal feedback during classwork is one mechanism for judging progress on the programme. These may not always form part of formal assessment and count towards your final mark but provide an opportunity to gauge progress that can discuss this with a personal tutor if required.

You will also receive written feedback after the group project presentations, written comments with numerical marks after submitting the coursework, within a period of 21 days. Personal tutors will also be able to inform you of your progress if required. You will receive verbal feedback from your supervisor during the research projects, usually on a weekly or fortnightly basis.

There is an excellent guide to what constitutes feedback available in the 'Success Guide – Master's students' website: https://www.imperial.ac.uk/students/success-guide/pgt/study-and-research-skills/feedback/

### Re-sit Policy

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 all core and compulsory modules.** | | | | | |
| Code | Module Title | Core/ Compulsory Elective/ | Group | Term | Credits |
| SURG70100 | Framework for Innovation | Compulsory | SPCS | Autumn | 5 |
| SURG70101 | Frontiers of Translation Research | Compulsory | SPCS | Autumn/ Spring | 5 |
| SURG70102 | Project Design in Translational Research | Compulsory | SPCS | Autumn | 20 |
| SURG70103 | Research Project | Core | SPCS | Spring/ Summer | 60 |
| | | | | Credit Total | 90 |

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[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 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 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 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

N/A

| Supporting Information |
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| The Programme Handbook is available at: TBC |
| The Module Handbook is available at: TBC |
| Imperial's entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/pg/apply/requirements |
| 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 |
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| 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. |