

University of Edinburgh MSc in Regenerative Medicine Industrial Placement Opportunities



The MSc in Regenerative Medicine is a postgraduate training programme designed to meet the needs of the developing commercial sector in Regenerative Medicine by training a cadre of highly-skilled individuals to further advance this industry.

Industrial Placement

An important part of our MSc Programme is a 12-week industrial placement, which students carry out in May-June. Placements typically involve laboratory-based projects within a Life Sciences company. However, past students have undertaken projects in areas as diverse as the regulatory aspects of new cellular therapies, business planning and product development. Our current industrial partners see this placement as an excellent opportunity to collaborate with our Research Centre, and as a unique chance to evaluate a potential recruit. Indeed, the majority of our industrial placement students have been offered employment after their MSc studies.

Engagement with new Life Sciences partners

Providing our students with an opportunity to work in the Life Sciences industry is a crucial aspect of our MSc Programme. To offer our current and future students exciting placement opportunities we wish to expand our interaction with the Life Sciences sector. We are especially keen to widen our engagement with industrial partners who operate in the area of Regenerative Medicine R&D and who would like to host a student and work with us to further gear our MSc training towards the needs of this expanding sector. We hope this will be of interest to you and will offer you opportunities to progress your own projects and evaluate a skilled and highly motivated individual whom you may see as a potential employee. Please get in touch if you would like more information.

CONTACT DETAILS	
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MRC Centre for Regenerative Medicine, University of Edinburgh

Regenerative Medicine aims to provide solutions to the problems of degenerative diseases by harnessing the developmental programs by which the tissues and organs of the body are laid down, and that underpin the natural repair and regenerative capacity of the body. The solutions may involve direct tissue replacement, mechanisms to ameliorate disease or enhance tissue repair, or the development of novel pharmaceutical therapies. As such, Regenerative Medicine is an area of increasing interest to Life Sciences industries operating in the healthcare sector, and to healthcare providers such as the NHS. The University of Edinburgh is an internationally recognised centre of excellence and hosts the MRC Centre for Regenerative Medicine (CRM), which brings together world-leading basic stem cell research and established clinical excellence to deliver a "bench-to-bedside" approach in addressing the challenges posed by degenerative diseases. With its broad scope and integrated approach,

the CRM is uniquely placed to deliver the tailored training required by the next generation of skilled professionals in this key area of Life Sciences.

MSc in Regenerative Medicine course outline

The first semester of the MSc programme is dedicated to teaching the science, techniques and principles underpinning Regenerative Medicine. The second semester focuses on practical aspects of cell production and the delivery of regenerative therapies to patient and customer.

Semester 1

Stem Cells and Regenerative Medicine
Fundamental Properties of Stem Cells
Basic Techniques in Regenerative Medicine
Scientific and Academic Writing

Semester 2

Production of Differentiated Cells
Regenerative Medicine and Industry
Practical Placement and Dissertation

Students learn about embryonic, pluripotent and adult stem cells, including haematopoietic, hepatic, neural, vascular, intestinal and mesenchymal stem cells, and how these could be applied as therapeutics in regenerative medicine. They also learn about the biological niches which nurture and regulate stem cells, as well as the basic techniques by which stem cells are analysed and manipulated. In the second part of the Programme, students will gain insight into how this information may be applied in the commercial sector, by covering such topics as intellectual property rights, Good Manufacturing Practice, clinical trials and the regulatory framework that surrounds the production and delivery of new therapeutics.

Innovation & Enterprise component

Stimulating an interest in enterprise and innovation in our students is an important strand that runs through many elements of our MSc Programme. A key component is our "Dragons' Den" competition. Students are required to come up with innovative and exciting ideas for the development of new therapies or devices in the Regenerative Medicine area. Initial concepts are assessed by a panel of experts from academia and industry, and in the second semester the students form teams around the most promising of these ideas to formulate the idea and work on a business plan. This task serves as a teaching tool through which the students develop an understanding of the pivotal processes required for the development and delivery of a new product or therapy. This hands-on approach ensures that topics such as regulatory frameworks covering new therapies, the fundamentals of Good Manufacturing Practice, and IP protection come to life and are fully appreciated. The course finishes with a business competition where the business plans and pitches are judged by a panel of experts.

For the Innovation & Enterprise component of our MSc Programme we work with partners such as the Scottish Institute for Enterprise (SIE) and the University of Edinburgh Business School to foster the key skills and competences to meet the challenges in turning ideas into business propositions. We encourage our students to submit their proposals and business plans to competitions such as LAUNCH.ed, the Young Innovators Challenge, SIE Fresh Ideas, and Converge Challenge. These platforms will provide the students with additional feedback and valuable experience and may encourage and support them to develop their ideas beyond the MSc course.



**Centre for
Regenerative
Medicine**



We hope you will take this opportunity to become involved with our programme and explore ways in which we can help meet your training needs and advance your business goals.

Please don't hesitate to make contact if you need more information about the course or the industrial placements; alternatively, more information can be found on our web site:

<http://www.crm.ed.ac.uk/join-us/msc-program>