

MSC (ADVANCED CELL AND GENE THERAPY)

Programme Learning Outcomes

Programme Learning Outcomes for the MSc (Advanced Cell and Gene Therapy) (NFQ Level 9, Major Award)

On successful completion of this programme, students should be able to:

- Discuss the theory and concepts that define and differentiate cell and gene therapy and the wider scientific and cultural contexts in which they are being developed and applied.
- Define the underlying principles of cell and gene therapy, including the molecular mechanisms involved in gene regulation, gene delivery, and cell-based therapies.
- Discuss strategies available for developing a vaccine and explain the significance of critical antigens, immunogens, and adjuvants in developing effective vaccines.
- Understand the regulatory landscape surrounding cell and gene therapy development and will be equipped to navigate the complex regulatory requirements.
- Recognize the ethical considerations involved in developing and administering cell and gene therapies, including issues related to patient consent, privacy, and access.
- Apply laboratory techniques, such as mammalian cell culture, bioassays, gene editing, and genome sequence analysis, that are used in cell and gene therapy research.
- Work in interdisciplinary teams with scientists and regulatory experts to advance the field of cell and gene therapy.
- Demonstrate the ability to critically discuss and reflect on ethical and social aspects of using immune, gene or cell therapy.
- Complete a body of independent research in an industry-relevant area and present research findings in a minor dissertation.