

# POSTGRADUATE DIPLOMA IN ADVANCED CELL AND GENE THERAPY

## Overview

NFQ Level 9, Major Award

The Postgraduate Diploma in Advanced Cell and Gene Therapy is a full-time programme delivered in a blended format, running over 12 months from the date of first registration for the programme.

## MSc in Advanced Cell and Gene Therapy

To progress to the Master of Science in Advanced Cell and Gene Therapy students must pass modules to the value of 60 credits in the PG Diploma in Advanced Cell and Gene Therapy and achieve an aggregate of at least 50% across all modules to the value of 60 credits.

The MSc in Advanced Cell and Gene Therapy consists of:

1. BC6014 *Research Dissertation in Advanced Therapy Medicinal* (30 credits)
2. 60 credits from the PG Diploma in Advanced Cell and Gene Therapy

## Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

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| Code  | Title  | Credits   |
|---|--|-----------|
| <b>Year 1</b>                               |  |           |
| Students take <b>60</b> credits as follows: |  |           |
| <i>Core Modules</i>                         |  |           |
| BT6004                                      | Skills Based Education and Training in Biotechnology                     | 10        |
| BC6005                                      | Introduction to Advanced Therapy Medicinal Products                      |           |
| BC6006                                      | Gene Editing, Therapy and Manipulation                                   |           |
| BC6007                                      | Stem Cell Biology and Tissue Repair                                      |           |
| BC6008                                      | Fundamentals of Vaccines   |           |
| BC6009                                      | Cell Based Immunotherapy for Human Diseases                              |           |
| BC6010                                      | Clinical and Ethical Applications of Advanced Therapy Medicinal Products |           |
| BC6011                                      | Genetic and Applied Genomics   |           |
| BC6012                                      | ATMP Manufacturing Science and Technology                                |           |
| BC6013                                      | Laboratory-based Technical and Analytical Skills                         |           |
| <b>Total Credits</b>                        |  | <b>10</b> |

## Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.

## Programme Learning Outcomes

Programme Learning Outcomes for the Postgraduate Diploma in Advanced Gene and Cell 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.
- Recognise 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.