Cell and Gene Therapies, MS (Boston)

Northeastern University's Master of Science in Cell and Gene Therapies is a professional master's program, an innovative, nonthesis graduate degree. It combines advanced interdisciplinary training in advanced therapies, such as cell therapies and gene therapies, with the development of high-value business skills critical to success in today's dynamic workplace. This program is designed to prepare graduates to innovate, collaborate, and lead as research, managerial, or technical professionals in a wide range of the cell and gene therapies fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Required Core		
BIOL 5543	Stem Cells and Regeneration	4
BIOL 5821	Cell and Gene Therapies	4
BIOT 5840	Cell and Gene Therapy Lab	3
BIOL 5583	Immunology	4
BIOT 5830	Regulatory Landscape of Cell and Gene Therapies	2
BIOL 6216	Applied Bioinformatics	4
BIOL 6381	Ethics in Biological Research	2
PMST 6254	Advanced Drug Delivery Systems	3
Co-op		
EESC 6500	Pathways to Professional Success	1
EESC 6964	Co-op Work Experience	0
or BIOT 7001	Managing Innovation in Biotechnology	
Elective		
Complete a minimum of 5 semester hours from the following to meet the 32 total hours for the program:		5
BIOE 6000	Principles of Bioengineering	
BIOL 5100	Biology Colloquium	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 5595	Cell and Molecular Neuroscience	
BIOT 5145	Biotechnology Lab Skills	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5401	Scientific Communication and Problem Solving in Biotechnology	
BIOT 5560	Bioprocess Fundamentals	
BIOT 5630	Cell Culture Applications for Biopharmaceuticals	
BIOT 5635	Downstream Processes for Biopharmaceutical Production	
BIOT 5850	Higher-Order Structure Analytics	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6320	Design and Development of Biopharmaceuticals	
BIOT 6340	Sterile Manufacturing Operations	
CHME 5101	Fundamentals of Chemical Engineering: Fluid, Heat, and Mass Transfer	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5631	Biomaterials Principles and Applications	
CHME 5632	Advanced Topics in Biomaterials	
NNMD 5270	Foundations in Nanomedicine: Therapeutics	

NNMD 5271	Foundations in Nanomedicine: Diagnostics
NNMD 5272	Nanomedicine Seminar

Program Credit/GPA Requirements

32 semester hours required
Minimum 3.000 GPA required