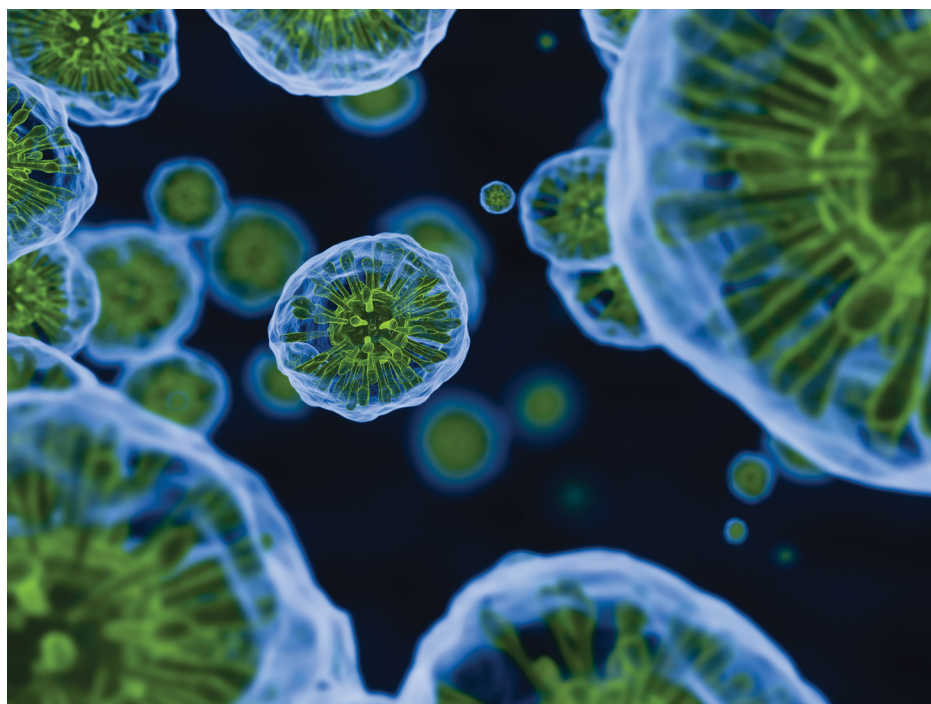


Chemistry Graduate Studies

Professional Science Master's Cell and Gene Therapy Sciences

Option in Master of Science in Pharmaceutical Chemistry



ABOUT THE COLLEGE OF SCIENCE AND LIBERAL ARTS

The College of Science and Liberal Arts (CSLA) is dedicated to instruction in the physical, biological, and mathematical sciences as well as traditional liberal arts disciplines. CSLA is home to internationally renowned research centers and award winning researchers, and partners with departments throughout NJIT to explore emerging frontiers and expand interdisciplinary initiatives in a diverse range of areas that include genomics, neuroscience, ecology, biomechanics, solar physics, photonics, environmental science, applied mathematics and statistics, materials science, technical communication and digital media.

WHY STUDY CELL AND GENE THERAPY SCIENCES AT NJIT?

NJIT is uniquely situated among the greatest concentration of biotechnology and pharmaceutical activities in the world, with over 400 private and public biopharmaceutical companies thriving around the NJ Area. Opportunity is right outside our door. The mission of NJIT's professional Cell and Gene Therapy Sciences option in the MS Pharmaceutical Chemistry program is to prepare scientists and engineers for dynamic careers in the biopharmaceutical industry. The program will focus on providing integrated coursework and training in current biotechnology industry practices, with a specific focus on applied cell and gene therapy. Our approach, relying on the input of our industrial advisory board, will ensure that our program will keep students up-to-date on the latest biotechnology industry changes and challenges and prepare them to work in this growing and exciting industry. The professional Cell and Gene Therapy Sciences program will provide a solid grounding in science and engineering, with an industry focus, facilitating the tailoring of coursework to meet individual career goals.

PROFESSIONAL SCIENCE MASTER'S

This program option is affiliated with the PSM National Office. The objective of this option is to create leaders with strong communication and management skills in addition to strong technical knowledge in cell and gene therapy sciences for the rapidly changing biopharmaceutical industry. This option is designed for working professionals or students who already have acquired some professional experience.

ADMISSIONS REQUIREMENTS

BS degree in the chemical, biological or pharmaceutical sciences or engineering preferred. GRE for all full-time applicants. Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) for all international students not holding a degree from a U.S. postsecondary institution. Minimum scores: Internet-based TOEFL – 79, computer-based TOEFL – 213, paper-based TOEFL – 550, IELTS – 6.5 with no sub-score lower than 6.0.

CURRICULUM

The Cell and Gene Therapy Sciences option consists of five core courses, three professional courses, one elective course, and one experiential course for a total of 30 credits. For degree requirements consult the graduate catalog: catalog.njit.edu/graduate/.

CORE COURSES (15 CREDIT HOURS)

BIOL 605	Principles of Bioscience Processing
BIOL 606	Applied Bioprocessing and Immunological Based Therapies
CHEM 673	Biochemistry
CHEM 777	Principles of Pharmaceutical Chemistry
CHEM 714	Pharmaceutical Analysis

REQUIRED PROFESSIONAL COURSES (9 CREDIT HOURS)

Select three of the following courses:

EM 631	Legal Aspects in Environmental Engineering
EM 633	Legal aspects of Health and Safety
EM 634	Legal, Ethical & Intellectual Property
EM 636	Project Management
EVSC 613	Environmental Problem Solving
EVSC 614	Quantitative Environmental Risk Assessment
EVSC 623	Environmental Health
FIN 600	Corporate Finance I
IE 615	Industrial Hygiene and Occupational Health
HRM 601	Organizational Behavior
MGMT 620	Management of Technology
PTC 601	Adv. Professional & Technical Communication
PTC 620	Proposal Writing
PTC 725	Writing for Publication

REQUIRED EXPERIENTIAL COURSE (3 CREDIT HOURS)

CHEM 595	Practicum in Cell and Gene Therapy Sciences
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ELECTIVE COURSES (3 CREDIT HOURS)

Select one of the following courses:

CHEM 601	Special Topics in Chemistry I
CHEM 605	Adv. Org Chem I: Structure
CHEM 658	Adv. Physical Chemistry
CHEM 661	Instrumental Analysis Laboratory
CHEM 700B	Master's Project
CHEM 702	Special Topics in Chemistry II
CHEM 716	Integrated Drug Development & Discovery
CHEM 719	Drug Delivery Systems
CHEM 737	Comp. Chemistry & Molecular Modeling
CHEM 748	Nanomaterials
EVSC 616	Toxicology for Engineers & Scientists
MATH 663	Introduction to Biostatistics
PHB 610	Biotechnology: Processes & Products
PHB 615	Bioseparation Processes
PHEN 500	Pharmaceutical Engineering Fundamentals I
PHEN 601	Principals of Pharmaceutical Engineering
PHEN 604	Validation & Reg. Issues in Pharmaceutical I
PHEN 618	Principles of Pharmacokinetics & Drug Delivery

Rutgers Newark courses

R120 572	Concepts in Pharmaceutical Drug Development
R160 515	Chemical Structure Determination

Rutgers Biomedical and Health Sciences (RBHS) courses

GSDN 5113	Gene Expression
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FOR FURTHER INFORMATION, CONTACT:

Graduate Programs,
Department of Chemistry and Environmental Science
www.njit.edu/cellgenetherapy
csla@njit.edu



TO APPLY CONTACT:

Office of Graduate Admissions
973-596-3300, or apply on-line at
<http://www.njit.edu/admissions/apply-online.php>