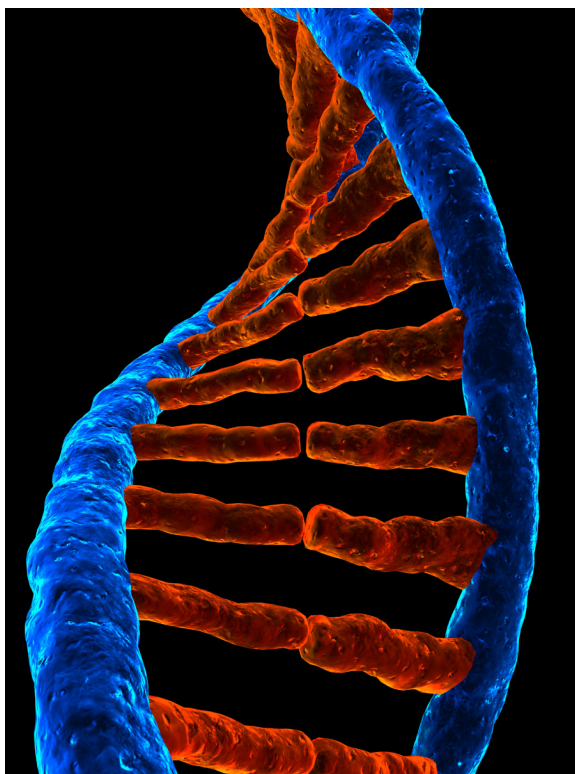




Chemistry Graduate Studies

Professional Biotechnology Option
Master of Science in Pharmaceutical Chemistry



Department of Chemistry and Environmental Science
College of Science and Liberal Arts

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 BIOTECHNOLOGY CHEMISTRY 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 Biotechnology option in the MS Pharmaceutical Chemistry program is to prepare scientists and engineers for dynamic careers in biopharmaceutical industry. The program will focus on providing integrated coursework and training in current biotechnology industry practices. 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. NJIT's professional Biotechnology program will provide a solid grounding in science and engineering, with an industry focus, facilitating the tailoring of coursework to meet individual career goals.

WHO SHOULD ENROLL?

If you have a BS degree in the chemical or biological sciences or engineering and seek a career or are employed in the biopharmaceutical industry, this program is for you.

ADMISSIONS REQUIREMENTS

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 Biotechnology option consists of five core courses, three professional courses, and two elective courses, for a total of 30 credits. For degree requirements consult the graduate catalog. catalog.njit.edu/graduate/.

CORE COURSES (15 CREDIT HOURS)

CHEM 605	Advanced Organic Chemistry I: Structure
CHEM 673	Biochemistry
CHEM 777	Principles of Medicinal Chemistry
PHB 505	Pharmaceutical Microbiol & Biochem
PHEN 601	Principles of Pharmaceutical Engineering

REQUIRED PROFESSIONAL COURSES (9 CREDIT HOURS)

Select three of the following courses:

EM 634	Legal, Ethical & Intellectual Property Issues for Engineering Managers
HRM 601	Organizational Behavior
MGMT 641	Global Project Management
PTC 601	Advanced Professional and Technical Communication

REQUIRED EXPERIENTIAL COURSE (3 CREDIT HOURS)

CHEM 590 Graduate Co-Op Work Experience

ELECTIVE COURSES (3 CREDIT HOURS)

Select one of the following courses:

CHEM 658	Advanced Physical Chemistry
CHEM 661	Instrumental Analysis Laboratory
CHEM 714	Pharmaceutical Analysis
CHEM 716	Integrated Drug Development and Discovery
CHEM 719	Drug Delivery Systems
CHEM 737	Applications of Computational Chemistry and Molecular Modeling
CHEM 748	Nanomaterials
EVSC 616	Toxicology for Engineers and Scientists
MATH 663	Introduction to Biostatistics
PHB 610	Biotechnology-Biopharmaceutical, Processes and Products
PHB 615	Bioseparation Processes
PHEN 500	Pharmaceutical Engineering Fundamentals I
PHEN 604	Validation and Regulatory Issues in the Pharmaceutical Industry
PHEN 618	Principles of Pharmacokinetics and Drug Delivery
CHEM 700B	Master's Project
Rutgers Newark courses	
R120 572	Concepts in Pharmaceutical Drug Development
R160 515	Chemical Structure Determination

Rutgers Biomedical and Health Sciences (RBHS) courses	
PATH N5209	Business of Science: Drug Dev. from Molecules to Medicine
PHPY N5021	Fundamentals of Pharmacology

FOR FURTHER INFORMATION, CONTACT:

Graduate Programs, Department of
Chemistry and Environmental Science
chemistry.njit.edu
gradchem@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>