The Molecular Biosciences Year At A Glance

A newly revised core curriculum spans the entire first year and exposes students to the discovery of fundamental concepts in the molecular biosciences, reflecting the interdisciplinary manner in which major advances in biomedical sciences have been made. The curriculum provides context for the integration of fundamental topics in molecular and cellular biology, genetics and biochemistry. Courses are designed to give students ample opportunity to delve into the primary literature, develop critical reasoning skills and the ability to identify and experimentally address open questions in molecular biosciences.

Throughout the first year, students participate in three laboratory rotations to identify a thesis advisor. Students are expected to select a thesis advisor by the end of the spring semester.

Fall Semester Courses:
- Fundamentals of Molecular Biosciences
- Experimental Methods in Molecular Biosciences
- Essential Skills I
- Laboratory Rotations

In the spring semester, mini-courses that span four-week blocks focus on specific topics that take advantage of faculty expertise and research interests on campus. Mini-courses give students opportunities to develop writing, speaking, presentation, modeling or other skills as appropriate. Mini-courses allow for close interaction of small groups of students with faculty engaged in cutting-edge research.

Spring Semester Courses:
- Select 6 mini-courses from a choice of 15**
- Essential Skills II
- Ethical Scientific Conduct
- Laboratory Rotations

**http://molbiosci.rutgers.edu/S15_MiniCourse_Descriptons.pdf

Molecular Biosciences is a multidisciplinary “umbrella” program that administers five graduate programs in the biomedical and life sciences at Rutgers University. Molecular Biosciences serves as an entry portal to review applications for admission, coordinate the first-year curriculum and assist students to identify a laboratory in which to conduct their thesis research.

Students are free to carry out their PhD research with any faculty member affiliated with one of the five Molecular Biosciences graduate programs, which are administered jointly by the Rutgers Graduate School New Brunswick and the Rutgers Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School:
- Biochemistry
- Cell and Developmental Biology
- Cellular and Molecular Pharmacology
- Microbiology and Molecular Genetics
- Physiology and Integrative Biology

At the end of the first year, students select a thesis advisor and a graduate program in which to take additional coursework, sit for a qualifying examination for admission to PhD candidacy and establish a dissertation advisory committee.

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Fast Facts about Molecular Biosciences

Rutgers was one of only 17 universities to recently be awarded a Broadening Experiences in Scientific Training (BEST) grant from NIH to help trainees prepare for a range of career paths in addition to academia.

Over 200 faculty members participate in Molecular Biosciences.

Faculty members of the Graduate programs in Molecular Biosciences hold primary appointments in departments at Rutgers, including Robert Wood Johnson Medical School. This facilitates collaborations between clinicians and basic scientists. Some faculty are also affiliated with a variety of Institutes and Centers on campus including:

- BIOMAPS Institute
- Waksman Institute of Microbiology
- Center for Advanced Biotechnology and Medicine
- Rutgers Cancer Institute of New Jersey
- Child Health Institute of New Jersey
- Center for Integrated Proteomics
- Human Genetics Institute
- Environmental and Occupational Health Sciences Institute

Students in the Joint Molecular Biosciences Graduate Students Association (JMBGSA) organize and run their own lecture series, as well as career workshops and social events throughout the year.

A stipend of $29,605, tuition remission and health benefits are guaranteed.

Great things to know about Rutgers

Ranked 33rd worldwide of 1000 top universities and 24th of 229 top US universities by the Center for World University Rankings.

More faculty in the National Academy of Sciences and the American Academy of Arts and Sciences than any other public peer school in the Northeast.

Among the top 3 public universities in the Northeast in receipt of Sloan Research Fellowships and National Science Foundation Faculty Early CAREER development awards.

Top 3 nationally in National Science Foundation Integrative Graduate Education and Research Traineeship funding.

Largest DNA and cell repository in the world for the study of genetics and autism, mental health, drug abuse, alcoholism, diabetes, and digestive and kidney disease.

Host to the Protein Data Bank, the single worldwide repository for 3D protein structures.

Recently joined the Committee on Institutional Cooperation, a premier higher education consortium of top-tier research institutions including those in the Big 10.

Location

The New Brunswick and Piscataway campuses are located in central New Jersey, just a short train ride to New York City and Philadelphia. In addition to major universities in the tri-state area, the region is also home to many large pharmaceutical companies.

Central New Jersey is ethnically diverse with excellent restaurants, arts, entertainment and sports facilities. The Jersey shore and Pocono Mountains are within an hour’s drive and offer many recreational activities.