



PhD in Biomedical Sciences

Priority Application Deadline : December 1st

Application instructions for biomedical programs are available at:

biomed.miami.edu/apply

Qualifications

Applicants to biomedical programs should have a bachelor's degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no required prerequisites, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged.

Competitive candidates will have the following:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstracts and/or papers
- Co-authorship in a peer-reviewed journal is expected for international applicants
- Strong letters of recommendation from scientists who know the candidate well in a research setting
- Motivation to pursue state-of-the-art biomedical research
- Applicants are encouraged to provide specific research interests and names of investigators that appeal to them as requested in the application.

biomed.miami.edu

PhD in Biomedical Sciences

- Biochemistry and Molecular Biology
- Cancer Biology
- Human Genetics and Genomics
- Microbiology and Immunology
- Molecular and Cellular Pharmacology
- Molecular Cell and Developmental Biology
- Neuroscience
- Physiology & Biophysics

Doctoral Degrees

- Doctor of Physical Therapy
- Executive PhD in Biochemistry and Molecular Biology
- PhD in Biostatistics
- PhD in Epidemiology
- PhD in Physical Therapy
- PhD in Prevention Science and Community Health

Master Degrees

- Master of Public Health
- MS in Biomedical Sciences
- MS in Biostatistics
- MS in Clinical and Translational Investigation
- MS in Prevention Science and Community Health
- MS in Public Health
- MS in Skin Biology and Dermatological Sciences
- MS in Vision Science and Investigative Ophthalmology

Undergraduate Programs

- BS + PhD in Biochemistry and Molecular Biology
- Summer Undergraduate Research Fellowship Program (SURF)

Joint Degrees

- MD + MBA
- MD + Juris Doctor
- MD + MPH (4 year)
- MD + MS in Genomic Medicine
- MD + PhD Joint Degrees
- PhD + MBA



Biomedical Sciences
 Biochemistry & Molecular Biology
 Biostatistics
 Cancer Biology
 Clinical & Translational Investigation
 Epidemiology
 Human Genetics & Genomics
 Medical Scientist Training Program
 Microbiology & Immunology
 Molecular & Cellular Pharmacology
 Molecular Cell & Developmental Biology
 Neuroscience
 Physical Therapy
 Physiology & Biophysics
 Prevention Science & Community Health
 Public Health
 Skin Biology & Dermatological Sciences
 Vision Science & Investigative Ophthalmology

LEONARD M. MILLER SCHOOL OF MEDICINE

GRADUATE & POSTDOCTORAL STUDIES

biomed.miami.edu

Programs in Biomedical Sciences (PIBS)

The University of Miami's Miller School of Medicine (UMMSM) provides students a wide variety of research opportunities in the biomedical sciences across many disciplines and departments.

First-year students take a core curriculum that builds a solid foundation in the biomedical sciences. The common coursework in the first semester ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. Students have the flexibility to select breakout sessions that match their interests. The core curriculum also offers critical learning opportunities in biostatistics, genomics and analytical tools. In the second semester, students select individual modular courses offered in our eight disciplines. These courses cover topics of specific relevance to graduate programs or research topics. Students also complete a course in biostatistics and a workshop in bioinformatics.

Program Affiliation

Students complete three to four laboratory rotations in various disciplines during their first year. This opportunity allows students to explore their interests before selecting a program and dissertation mentor. Students match with mentors in specific programs and achieve program affiliation at the end of their first year in one of the following programs through degree completion:

- Biochemistry & Molecular Biology
- Cancer Biology
- Human Genetics & Genomics
- Microbiology & Immunology
- Molecular & Cellular Pharmacology
- Molecular Cell & Developmental Biology
- Neuroscience
- Physiology & Biophysics

We are committed to your success as a student! We do more than just provide a solid education in biomedical science, we also offer continuous career and professional development opportunities throughout your entire graduate experience with us. This includes workshops designed to build skills in grant writing and publishing scholarly papers as well as mentorship and networking opportunities in academia and industry. Whatever your desired path, we can help you get there!



University of Miami is ranked in the Top 50 of National Universities in US News & World Report's Best Colleges.



World Renowned Institutes, Cutting-Edge Research



The University of Miami, **Miller School of Medicine is a research powerhouse**, achieving international recognition for breakthroughs and advanced knowledge in diabetes, cancer, spinal cord injury, HIV / AIDS, marine science, and many other areas. Our centers of excellence are continually ranked among the nation's best, including Bascom Palmer Eye Institute, Sylvester Comprehensive Cancer Center, The Miami Project to Cure Paralysis, and the Diabetes Research Institute. Our institutes include the Interdisciplinary Stem Cell Institute, Miami Institute for Human Genomics, and the Center for Computational Sciences. We are leaders in life-changing discoveries and innovative research.

A few examples of current research projects in biomedical sciences:

- Nanotechnology / nanoparticles / drug delivery
- Host defense from virus; HIV vaccines and virus persistence
- Mitochondrial biogenesis and mitochondrial disease
- Stem cells and stem cell therapy
- Neuroinflammation; blood-brain barrier; multiple sclerosis
- Cancer microenvironment; cancer stem cells; microRNAs in cancer
- Innate immunity and cancer; Perforin-2
- Axon regeneration; neuroregeneration
- Functional genomics of hereditary diseases; Epigenetics; Parkinson's disease; Alzheimer's disease.
- Ion channel physiology in cardiovascular and nervous systems
- DNA damage and repair; long noncoding RNAs in biology
- Drug discovery; small molecules; computational pharmacology
- Sensory systems: vision, eye disease and pain perception
- Signal transduction in cell mechanisms and cancer

Learn more at biomed.miami.edu/research