

# Biomedical Science

## MASTER OF SCIENCE

Northeastern University  
Bouvé College of  
Health Sciences

Scientific work, whether research or clinically oriented, is increasingly interdisciplinary and demands a skill set able to deal with problems of human health across multiple branches of science and medicine.

The Master of Science in Biomedical Science integrates study across several areas of contemporary biomedicine, including human physiology and pathophysiology, pharmacology, and biochemistry/cell biology. This program is for those entering or currently employed in the field, including research technicians, clinical laboratory workers, science teachers, and science administrators.

### PROGRAM BENEFITS

**Apply theory to practice** with co-op and internship opportunities throughout Boston, the hub of the big-pharma/biotech industry.

**Learn and collaborate** with industry-practiced faculty members who act as a resource for professional development and provide guidance to help advance your career.

**Gain preparation for a full PhD** by applying MS in Biomedical Science coursework to the PhD program requirements.

### PROGRAM OUTCOMES

Students who complete the program will be able to:

**Evaluate critical topics** of contemporary focus in the biomedical sciences industry.

**Identify major themes, knowledge gaps, and research problems** regarding the application of human biology and pathology to drug pharmacology, invention, and clinical application.

**Execute experiments** in biomedical science that advance the medical application and clinical utility of drugs.

**Advance clinical and translational medicine** by applying knowledge of the biomedical sciences.

### CURRICULUM OUTLINE

#### Required Courses (14-16 semester hours):

- Concepts in Pharmaceutical Science
- Concepts in Pharmaceutical Science 2
- Research Skills and Ethics or Ethical Problems in Health Sciences Research
- Pharmaceutical Biochemistry or Pharmaceutical Sciences Laboratory
- Cellular Physiology
- Experimental Design and Biostatistics
- Human Physiology and Pathophysiology

#### Sample Electives (17-19 semester hours):

- Integrated Anatomy and Physiology
- Drug Safety and Immunogenicity
- Bioanalytical Chemistry
- Nanomedicine Research Techniques
- Research Ethics for Beginning Health Scientists
- Receptor Pharmacology
- Advanced Pharmacokinetics and Toxicology

#### Total Number of Semester Hours: 33

- On average, students can complete this degree in two years.
- Minimum 3.0 GPA required



With more than 100 undergraduate and graduate programs, the Bouvé College of Health Sciences offers students extraordinary opportunities in three preeminent schools: Health Professions, Nursing, and Pharmacy. These schools are united across disciplines, preparing the next generation of highly skilled, versatile, and enterprising healthcare leaders, while advancing high-impact research to address the world's challenging issues. Spanning multiple campuses, Bouvé's interprofessional classroom approaches mirror today's collaborative reality in healthcare and research. Simulation exercises prepare students for real-life crises, while state-of-the-art laboratories foster high-impact research where even first-year students participate. Lectures and theories come alive and are honed through unrivaled co-ops and clinicals in Boston, the hub of health innovation, or through placements around the globe.

## Northeastern University

Founded in 1898, Northeastern is a global research university and the recognized leader in experience-driven lifelong learning. Our world-renowned experiential approach empowers our students, faculty, alumni, and partners to create impact far beyond the confines of discipline, degree, and campus.

Our locations—in Boston; Charlotte, North Carolina; London; Portland, Maine; San Francisco; Seattle; Silicon Valley; Toronto; Vancouver; and the Massachusetts communities of Burlington and Nahant—are nodes in our growing global university system. Through this network, we expand opportunities for flexible, student-centered learning and collaborative, solutions-focused research.

Northeastern's comprehensive array of undergraduate and graduate programs—in a variety of on-campus and online formats—lead to degrees through the doctorate in nine colleges and schools. Among these, we offer more than 195 multidisciplinary majors and degrees designed to prepare students for purposeful lives and careers.