

Master of Science in Biomedical Research Technologies



Program Overview

The application of advanced technologies is a critical aspect of biomedical research. The one-year MS in Biomedical Research Technologies provides participants with the skills and knowledge to support research investigations in core discovery areas including:

- Micro and Nano Imaging
- Genomics
- Proteomics
- Transgenics

Program participants will gain a solid understanding of research principles, the relevance of these principles to an array of biomedical problems and the technical skills to implement research technologies to achieve discovery goals. Graduates will be able to apply ongoing and emerging technologies to biomedical research in highly competitive research settings in the pharmaceutical industry or academia.

This program also provides a solid foundation for continued education toward PhD or MD degrees. Our graduates matriculate in medical/graduate school or have secured a position in biotech or academic research laboratories.

Boston University's mission of fostering and advancing interdisciplinary biomedical research is well reflected in the program. Our goal is to provide students with theoretical and practical knowledge related to different biomedical research core technologies used in addressing an array of pathologies, from cancer, to diabetes, to bone disease, to name a few.

- Dr. Katya Ravid

*Director, MS Biomedical Research
Technologies Program*



Program Highlights

- It is one of the few programs offered that is specifically focused on biomedical research core technologies.
- The program was developed with input from colleagues affiliated with leading pharmaceutical companies.
- The full-time, 32-credit graduate program begins in August and can be completed in one year.
- The program includes seven required courses and 2-3 elective courses, as well as an eight-credit practical course in demonstration of technology, designed to be completed over three semesters.
- In the first semester, the Practicum course includes two research practica, each in a different core technology, followed by a Capstone project or library-based thesis that is completed over the second and third semesters.
- Courses are taught by world-class faculty from Boston University Chobanian & Avedisian School of Medicine.
- High levels of mentoring and advising are provided to support each student's success.
- The degree is awarded by Graduate Medical Sciences at Boston University Chobanian & Avedisian School of Medicine.

Curriculum

Students complete 24 credits of classroom-based coursework and eight credits of Practicum and Thesis research.

Required Courses

Fall Semester	Credits
GMS MM 700: Biological Core Technology	3 credits
GMS BI 751: Biochemistry/Cell Biology (valid for medical school)	6 credits
GMS BR 730 A1: Biotechniques	2 credits

Spring Semester	Credits
GMS MS 700: Elementary Biostatistics	2 credits
GMS BR 700: Biological Core Technology - Practicum	4 credits

Summer Semester	Credits
Capstone or Library-Based Thesis	Continuing Student

Sample Elective Courses

See our full selection of electives here: <http://www.bumc.bu.edu/gms/brt/curriculum/courses/>

Clinical/Translational Research	Science Behind Technology
GMS CI 631: Management of Clinical Research Pathology and Compliance Issues	GMS BI 776: Gene Targeting in Transgenic Mice

GMS CI 660: Good Clinical Practice in Clinical Research	GMS BI 793: Mass Spectrometry, Proteomics and Functional Genomics
GMS CI 675: Designing Clinical Research Studies	GMS MS 783: Molecular Basis of Neurologic Diseases
GMS CI 680: Legal and Ethical Issues in Clinical Research	GMS PA 600: Pathology and Pathophysiology of Disease
GMS MS 791: Essential Readings in Translational Research	GMS PA 910: Human Biospecimens for Research
GMS MS 793: Fundamentals of Medical Biotechnology	GMS PA 810: Business of Science
GMS MM 707: Organ System Diseases (may be offered in Spring)	
GMS MM 710: Molecules to Molecular Therapeutics	
GMS BRT 650: Biotechniques Laboratory	

Admissions

You can apply to the program any time after September 1. Applications are reviewed on a rolling basis, and applicants will be notified of their acceptance within four to six weeks. While the deadline for the application for the Fall semester is July 30, space is limited, and applicants (particularly of international origin) are advised to apply much earlier.

Note: International students are strongly encouraged to apply by April 30, as visa processing requires additional time.

- To be eligible for admission, students must have completed a Bachelors degree from an accredited college or university in biological, biomedical or biotechnology services, including a passing grade in Organic Chemistry and/or Biochemistry or Molecular Biology.
- GRE score is no longer required.
- Applicants whose native language is not English must complete an English proficiency test (TOEFL, IELTS, Duolingo).
- To apply to the program, please visit bu.edu/gms/admissions.

Tuition, Financial Aid and Student Resources

For the most up-to-date information on tuition and fees, visit www.bumc.bu.edu/gms/students/financing-options. Tuition costs are determined by the Boston University Board of Trustees and are subject to change on an annual basis. Students in the program may also incur additional costs for transportation, academic supplies, personal costs and housing.

The Financial Aid office at Boston University Chobanian & Avedisian School of Medicine is available to assist students in identifying sources of financial support, including graduate and research assistantships, fellowships and student loans.

The BU Office of Housing Resources provides information regarding housing, transportation, and Boston neighborhoods. For more details, visit www.bumc.bu.edu/ohr.

A guide for international students that covers topics such as preparing to come to the United States, finding houses, and places to shop [can be found here](#).

Contact

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<https://www.bumc.bu.edu/gms/brt/>

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