

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 such as:

- 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, MD, and PA degrees. Our graduates matriculate in medical/graduate school (e.g., University of Washington, Boston University, TUFTS, etc.), have secured positions in biotech (e.g., Pfizer, Platelet Biogenesis, etc.), and have continued to pursue academic research in 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 September and can be completed in one year.
- The program includes 6 required courses and 2-3 suggested elective courses, as well as an 8-credit practical course in demonstration of technology, designed to be completed over three semesters.
- In the Spring semester, the Practicum course includes two research practica, each in a different core technology, followed in the Summer semester by a Capstone project or library-based thesis.
- 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.

Representative Feedback From Our Recent Graduates

- *"I have been told that to be a good scientist I need to ask the right questions. This program helped me get closer to becoming a better scientist who asks the right questions and knows how to start answering them. I know more than I did a year ago, which to me made this a great program and a great experience."* MK (Class of 2025)
- *"Your feedback and mentorship have meant a great deal to me, and I've learned so much from this experience and program."* YX (Class of 2025)
- *"Overall, I found the experience to be a valuable introduction to the world of research and biomedical technology. The coursework was informative, and the opportunity to explore different labs and participate in lab rotations gave me meaningful insight into potential directions for my professional development. These experiences have helped clarify the steps I want to take in my future career. I'd like to sincerely thank the program leaders for guidance and mentorship throughout the program. I'm truly grateful for the support and knowledge you've shared."* AG (Class of 2025)

Curriculum

Students complete 24 credits of classroom-based coursework and 8 credits of Practicum and Thesis research.

Required Courses

Course Name	Credits
GMS BI 751: Biochemistry/Cell Biology	6 Credits (Fall Semester)
GMS MM 730: Biological Core Technologies	3 Credits (Fall Semester)
GMS BR 730: Critical Assessment of Biotechniques	2 Credits (Fall Semester)
GMS MS 700: Biostatistics	2 Credits (Spring Semester)
GMS BR 700: Core Technology Practicum	4 Credits in Spring Semester; 2 Credits each Summer Semester
GMS MS 971/972: Related Medical Research	2 or 4 Credits (any Semester)

Electives

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

Course Name	Credits
GMS MM 707: System Disease*	2 Credits; given in alternate years
GMS MM 710: Molecules to Molecular Therapeutics*	2 Credits; given in alternate years
GMS BR 650: Bio Techniques Laboratory*	4 Credits
GMS MS 793: Fundamentals in Medical Biotechnology	2 Credits
GMS MS 791: Essential Readings in Translational Research	2 Credits
GMS CI 660: Good Clinical Practice in Clinical Research*	2 Credits
GMS CI 675: Designing Clinical Research Studies*	2 Credits
GMS CI 6809: Legal and Ethical Issues in Clinical Research	2 Credits
GMS BI 793: Mass Spectrometry, Proteomics, and Functional Genomics*	2 Credits
GMS MS 783: Molecular Basis of Neurologic Diseases	2 Credits
GMS PA 600: Pathology and Pathophysiology of Disease	4 Credits
GMS PA 910: Human Bio Specimen Research*	2 Credits
GMS PA 810: Business of Science*	2 Credits

**recommended elective*

Admissions

You can apply to the program starting late September. 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 June 30, in some cases it is extended to mid-July. However, 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 Bachelor's degree from an accredited college or university in biological, biomedical or biotechnology services with a minimum GPA of 3.0, 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. For contact information, visit www.bumc.bu.edu/osfs/contact-us/.

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 housing, and places to shop [can be found here](#).

Contact

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