• Bachelor of Science in Biomedical Laboratory & Clinical Sciences
• Certificate in Biotechnology
• Certificate in Clinical Research
Massachusetts contains one of the world’s preeminent biotech superclusters. According to the Massachusetts Biotechnology Council, the state hosts more than 550 biotech and biopharma companies, received $2.5 billion in National Institutes of Health (NIH) funding for basic research in 2012, and is home to 9 of the top 18 NIH-funded independent research hospitals—including Boston University’s teaching affiliate Boston Medical Center, located on BU’s Medical Campus (BUMC). Through 2022, the U.S. Bureau of Labor Statistics Occupational Outlook Handbook predicts much higher-than-average growth in jobs related to biotech and biopharma.

Boston University is one of the top-ranked schools in the country and the world. The Charles River Campus and Medical Campus offer state-of-the-art resources and valuable connections to Boston industry, including 26 BUMC-affiliated hospitals. Students in the Biomedical Laboratory & Clinical Sciences degree program and the Biotechnology and Clinical Research certificate programs benefit from part- and full-time study options, evening and Saturday courses, and valuable hands-on training through laboratory courses and externships at research facilities in the greater Boston area. Many students work in Boston’s biomedical industry while pursuing their studies simultaneously.

Whether you are changing careers or working to improve your marketability, Boston University’s program in Biomedical Laboratory & Clinical Sciences will prepare you for a fulfilling role in this fast-growing and rewarding industry.

Undergraduate Biomedical Programs

Boston University Metropolitan College (MET) & School of Medicine (BUSM)

- Bachelor’s in Biomedical Laboratory & Clinical Sciences
- Certificate in Biotechnology
- Certificate in Clinical Research

“I am currently employed as a site-manager specialist. I believe I was hired based on the fact that I was very knowledgeable about the roles and functions of the departments that make up a project team. I was able to intelligently explain the process of starting trials, the certifications needed, and the classification of the proposed project phase. I can attribute this knowledge to my coursework done through the BLCS program.”

Renee A. Mills
Site Management Specialist, Real-World & Late Phase Research, Quintiles
Biomedical Laboratory & Clinical Sciences (’15)

bu.edu/met/biotech
Bachelor of Science in Biomedical Laboratory & Clinical Sciences

The bachelor’s program in Biomedical Laboratory & Clinical Sciences (BLCS) combines general undergraduate education with special technical training that prepares students for positions in biomedical or clinical research. Courses are available in basic and more advanced theoretical and practical biomedical scientific areas. Lecture and laboratory courses in molecular biology, protein purification, tissue culture, Current Good Manufacturing Practice (cGMP), and other topics relevant to the biotech and biopharmaceutical industries help prepare students for fulfilling jobs and careers. Students can also choose to concentrate in clinical research courses which prepare them for work in the world of clinical trials.

The time required to earn the degree varies based on individual schedules, transferable credits, and the pace students establish for themselves to complete the program.

The BLCS curriculum consists of 128 credits, to be earned in four distinct components:

- **Distribution/Specialization Requirements** (74 credits)
  Distribution requirements comprise basic science and liberal arts courses, while specialization requirements are drawn from courses in the biomedical sciences taught at BU’s School of Medicine. Courses taken at other institutions may satisfy some of these requirements.

- **Specialization Electives** (36 credits)
  Specialization electives provide working knowledge in a range of relevant fields, including regulatory and compliance issues, molecular biology, protein purification, and bioinformatics. Students choose from a wide range of offerings, and may concentrate on an area of their choosing.

- **Free Electives** (8 credits)
  Free electives allow students to complement and broaden their academic background based on career objectives and personal interests. Usually, two courses (8 credits) are required—possibly more, depending on transfer credits—chosen with the advice of an academic counselor.

- **Externship/Clinical Practicum** (10 credits)
  Students gain hands-on professional experience in their chosen field by working in a laboratory or clinical research environment. Externships and practicums are available in clinical, industrial, and university settings, and assist students in meeting individual goals. Students must earn a minimum of 10 credits and may earn up to 20 credits with the director’s approval. The total number of credits earned in the externship will determine the number of specialization elective course credits required of students.

**Course Listings and Descriptions**
A comprehensive list of courses, course descriptions, schedules, and requirements for the Biomedical Laboratory & Clinical Sciences program can be found online at bu.edu/met/biotech.

“The support and genuine interest of the professors, program director, and mentors in each student’s education, professional career growth, and success is something I have not been able to find anywhere else. The program helped me prepare for networking opportunities, connect with job recruiters, attend seminars, and prepare for interviews and résumé reviews!”

Maimoona Saleem
Supervisor, Upstream Manufacturing Operations, Biogen Idec
BS in Biomedical Laboratory & Clinical Sciences (’12)

The Externship/Clinical Research Practicum

The externship is an integral component of the BLCS program, providing a valuable opportunity for students to gain hands-on experience in their chosen field. Externships can take place in biotechnology firms, clinical laboratories, and biomedical research facilities. Students have also been able to arrange externships at their own workplace. A Memo of Agreement (MOA) signed by the student, a supervisor, and the program director is required. Students must meet with the program director to arrange their externship and submit a résumé at least one semester before their externship is to start.

A minimum of 10 externship credits is necessary for the degree; a minimum of 250 hours of supervised work is required. Students pay regular tuition charges for additional externship credits.

**Recent Externship Sites:**
- Biogen Idec
  Analytical Development Laboratory, Cambridge
- Boston University
  Biomimetic Materials Engineering Laboratory, Boston
- Boston University School of Medicine (BUSM)
  Department of Pharmacology
- Dana-Farber Cancer Institute
  Cancer Biology, Boston
- Massachusetts General Hospital
  Vaccine and Immunotherapy Center, Boston
- Novartis Institute for Biomedical Research
  Drug Metabolism and Pharmacokinetics, Cambridge
- Shire Pharmaceuticals, Inc.
  Biomanufacturing, Lexington
How to Apply

Students apply for admission to the Bachelor of Science in Biomedical Laboratory & Clinical Sciences degree program through Metropolitan College’s Undergraduate Student Services. Secondary school graduation, or an equivalency diploma, and official transcripts from all postsecondary institutions attended are required.

Find detailed information about how to apply, including admission policies, financial assistance, and scholarship opportunities at bu.edu/met/admissions.

Financial Aid and Scholarships

The Boston University Financial Assistance office can answer your questions about financial aid, merit awards, need-based grants, and other educational grant and lending programs. Please visit bu.edu/finaid or call 617-353-2965.

Government-Funded Programs

The U.S. Department of Labor and the Department of Unemployment and Training have provided limited funds to offset some tuition for unemployed students; students must meet eligibility requirements for both the government and BLCS programs.

Certificate Programs

The four-course certificate programs in Biotechnology or Clinical Research are designed for students who have a foundation in biology, chemistry, and math; who already hold an undergraduate degree in the sciences; or who are career changers with a degree or job experience from another field.

Enrollment in a certificate program requires submission of a résumé and application, as well as an interview with the program director. With approval, students may design their own certificate curriculum based on individual goals.

Certificate in Biotechnology

The Certificate in Biotechnology is an excellent option for those who wish to obtain advanced training in laboratory science. The certificate provides additional techniques and knowledge as well as hands-on laboratory skills used at many biomedical, pharmaceutical, and biotechnology companies.

A comprehensive list of courses, course descriptions, and requirements for the Certificate in Biotechnology can be found online at bu.edu/met/biotechcertificate.

Certificate in Clinical Research

Functioning as the link between the biomedical industry and the physician, clinical research professionals assist in the testing and evaluation of new drugs, devices, and procedures. The Certificate in Clinical Research trains professionals to contribute to the design, conduct, and analysis of clinical trials.

A comprehensive list of courses, course descriptions, and requirements for the Certificate in Clinical Research can be found online at bu.edu/met/clinicalresearch.

“I not only know how various lab equipment and instruments operate, but how they can be applied—and I can effectively communicate product features and benefits to scientists. I wholeheartedly recommend the BLCS program to any student who wants to gain valuable real-world experience!”

Dimitri T. Leonidas
Technical Sales Specialist, Profector Life Sciences
BS in Biomedical Laboratory & Clinical Sciences (’12)

“...the BLCS program gave me tools specific to the life science industry that made my résumé stand apart from other recent graduates, and led to four lab-based job offers right out of school. I attribute my success to the early training I received through the BLCS program, without which I would not have been able to springboard into positions that typically require more training than a recent graduate has. Before I graduated, I already had both academic and biotech experience on my résumé, which allowed my early job applications to stand above the others.”

Matt Schonewald
Senior Sales Representative, 2013 Rep of the Year, VWR International
BS in Biomedical Laboratory & Clinical Sciences (’03)
Contact

For more information on any of these programs, please visit our website or contact the program Director:

Biomedical Laboratory & Clinical Sciences
Phone: 617-638-5622
Fax: 617-638-5621
Email: biomed@bu.edu
bu.edu/met/biotech

Boston University School of Medicine
72 E. Concord Street, Tenth Floor
Boston, MA 02118

Getting to the Medical Campus

There is a campus shuttle between the Charles River Campus and the Medical Campus; a schedule is available at bu.edu/thebus. For car, subway, and bus directions, please visit bu.edu/maps or bu.edu/met/biotech.