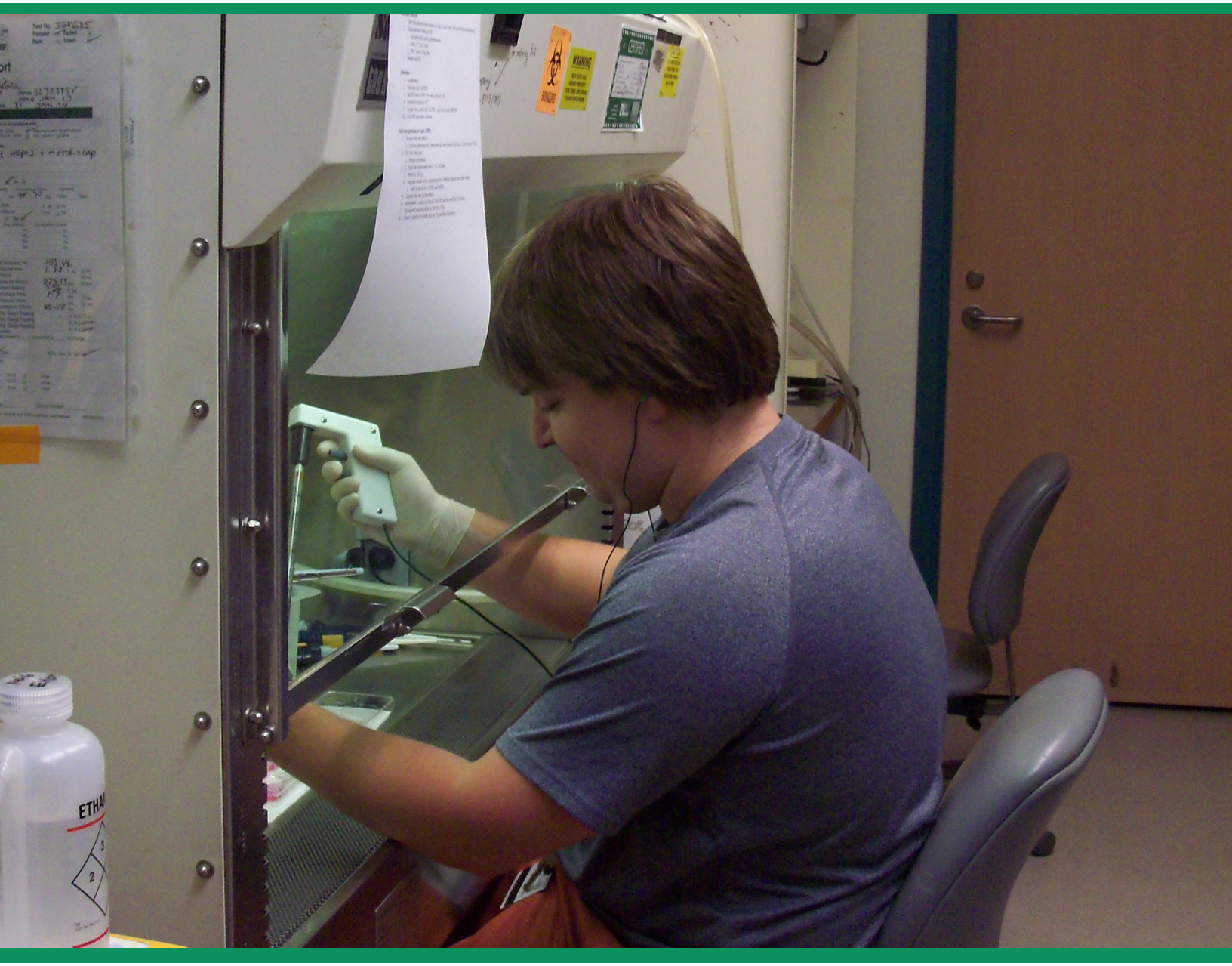
Boston University School of Medicine
Division of Graduate Medical Sciences



MASTER OF ARTS IN BIOPHYSICS
MASTER OF ARTS IN PHYSIOLOGY

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Program Overview

The 32-credit M.A. programs in Biophysics or in Physiology prepare students to plan and execute research at the molecular, cellular, and organismal level for careers in industry, government, or academia. Students engage in laboratory research (with the option of rotating through multiple laboratories) and perform original research, building strong presentation and writing skills. Many students in the program continue on to pursue doctoral studies and the program emphasizes collaboration among research groups.

Program Highlights

- Access to extensive facilities and instrumentation for state-of-the-art physiological and biophysical research including core facilities in:
  - Biophotonics
  - Electrophysiology
  - Molecular biology
  - NMR
  - Spectroscopy
  - Structural electron microscopy
  - Thermodynamics
  - X-ray crystallography

> “Graduates will understand biological systems at the molecular level and in the context of the cell and organism in line with the NIH initiative to encourage training across scientific and medical disciplines.
>
> – Dr. David Atkinson, Chair, Department of Physiology & Biophysics

- Work with internationally-recognized faculty in state-of-the-art research laboratories
- Collaborate with peers, Ph.D. students, post-doctoral fellows, and research technicians
- Participate in weekly departmental seminar series
- Select a faculty advisor and create a plan for original research culminating with a literature-based or short, laboratory-based thesis
- Learn to communicate and collaborate effectively with medical personnel, chemists, engineers, physiologists, and physicists

Program Requirements

- Students are required to take three modules from the Foundations in Biomedical Science curriculum, Protein Structure, Cell Dynamics, and Cellular Physiology
- Students are required to take a minimum of one physiology course and one biophysics course
- Students will also take a Special Topics Seminar Course (4-6 credits spread over 2-3 semesters) aimed at developing the student’s ability to read and present the merits and/or deficits of scientific literature. Typically this course meets for two hours each week and all students will present once each semester
- Students must maintain a grade point average of 3.0 or higher

Curriculum

First Year Students:

Participate in Foundations in Biomedical Sciences (FiBS) core curriculum

FC 701 – Protein Structure, Catalysis & Interaction (Required Course)

FC 703 – Architecture & Dynamics of the Cell (Required Course)

FC 707 – Physiology of Specialized Cells (Required Course)

Additional Foundation courses:

FC 702 – Structure and Function of the Genome

FC 704 – Mechanisms of Cell Communication

FC 705 – Translational Genetics and Genomics

FC 706 – Molecular Metabolism

Select elective courses focused on area-specific interests from core disciplines such as:

Biochemistry

Biophysics

Genetics and Genomics

Immunology Training

Medical Nutrition

Microbiology

Molecular Medicine

Pathology and Laboratory Medicine

Physiology

In addition to this coursework, students will

Engage in laboratory research with the option to rotate through multiple labs

Attend research seminars

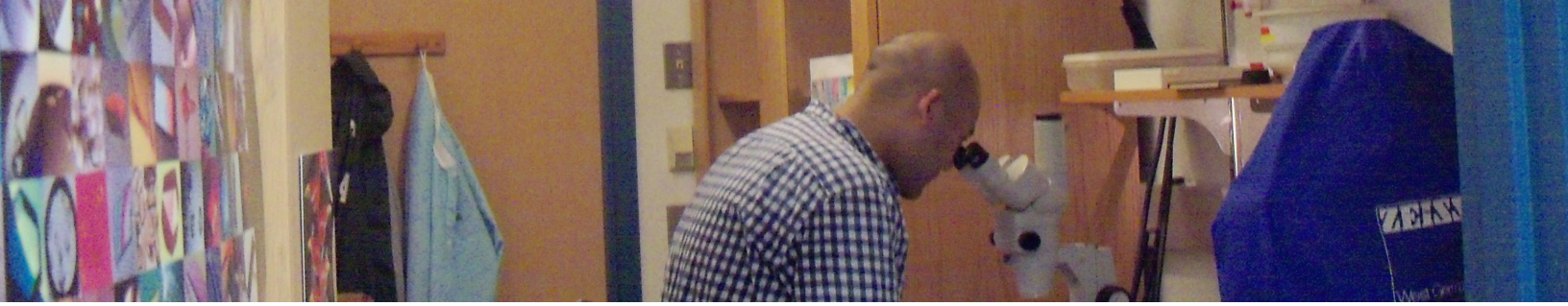
Begin thesis research

Second Year Students:

Continue taking classes if needed or desired

Develop and carry out Masters research project

Take Qualifying examinations should they wish to advance to the Ph.D. degree



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Admissions Requirements

The program seeks students from a wide range of backgrounds. We are especially interested in candidates with research experience and underrepresented minorities. Students should have earned excellent grades in a rigorous undergraduate curriculum. Biophysics candidates will have completed coursework in organic chemistry and physics or physical chemistry. Physiology candidates will have completed coursework in organic chemistry, and physiology or biochemistry.

Applicants are required to complete the GRE general test; a subject test is optional. Letters of recommendation are important to the Admission committee as is a written personal statement. For applicants with degrees from outside the U.S. whose native language is not English, TOEFL scores must be submitted.

To apply to the program, please visit bu.edu/gms and click on Admissions.

Tuition, Financial Aid and Student Resources

For the most up to date information tuition and fees, please visit www.bumc.bu.edu/gms/students/financing-options. The Financial Aid Office at Boston University of Medicine is available to assist students in identifying sources of financial support. For more details, please visit bumc.bu.edu/osfs.

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

For more information about our M.A. programs in Physiology & Biophysics please contact:

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