



**2022-2023**

# **Molecular Biology, Cell Biology & Biochemistry (MCBB) Graduate Program Guide**

As BU has enacted plans to help protect the health and safety of the BU community from the spread of COVID-19, there have been a number of changes for our students and programs which may affect some of the policies and procedures outlined in this graduate guide. Please refer to BU's COVID-19 information webpage ([www.bu.edu/covid/](http://www.bu.edu/covid/)) for the latest updates and information on BU's response to COVID-19 as well as any additional updates from the Graduate School of Arts & Sciences and the MCBB Program throughout the academic year.



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## MCBB Graduate Program Administration

The MCBB Program is administered by the Director and the Associate Director with advice from the MCBB Program Committee and the participating faculty. The Director, the Associate Director, and the MCBB Program Committee oversee all academic programs and policies. The MCBB Program Committee consists of representative faculty from participating Academic Departments. The Program Committee is responsible for evaluating the progress of continuing students and petitions, curriculum development, determining MCBB faculty membership in the program, and maintaining the overall standards of the graduate program. The Program Committee and the Director are responsible for evaluating applications for admission and accepting students.

Students should consult the Graduate Program Specialist for the MCBB Program, located in the Biology Department (Room BRB 101), with questions or concerns about administration, policies, resources, and/or procedures. In all cases, if there are problems or concerns the student should first ask their major professor.

### MCBB Program Director:

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Joseph Larkin (Physics/Biology)

Alexander Green (Biomedical Engineering)

Kathleen Morgan (Health Sciences)

## Boston University Diversity Statement

Boston University's founders opened its doors to all students without regard to religion, race, or gender. Building and sustaining a vibrant community of scholars, students, and staff remains essential to our mission of contributing to, and preparing students to thrive in, an increasingly interconnected world.

We strive to create environments for learning, working, and living that are enriched by racial, ethnic, and cultural diversity. We seek to cultivate an atmosphere of respect for individual differences in life experience, sexual orientation, and religious belief, and we aspire to be free of intellectual parochialism, barriers to access, and ethnocentrism.

Success in a competitive, global milieu depends upon our ongoing commitment to welcome and engage the wisdom, creativity, and aspirations of all peoples. The excellence we seek emerges from the contributions and talents of every member of the Boston University community.

## Participating Staff by Department

### Biology Department (College of Arts & Sciences):

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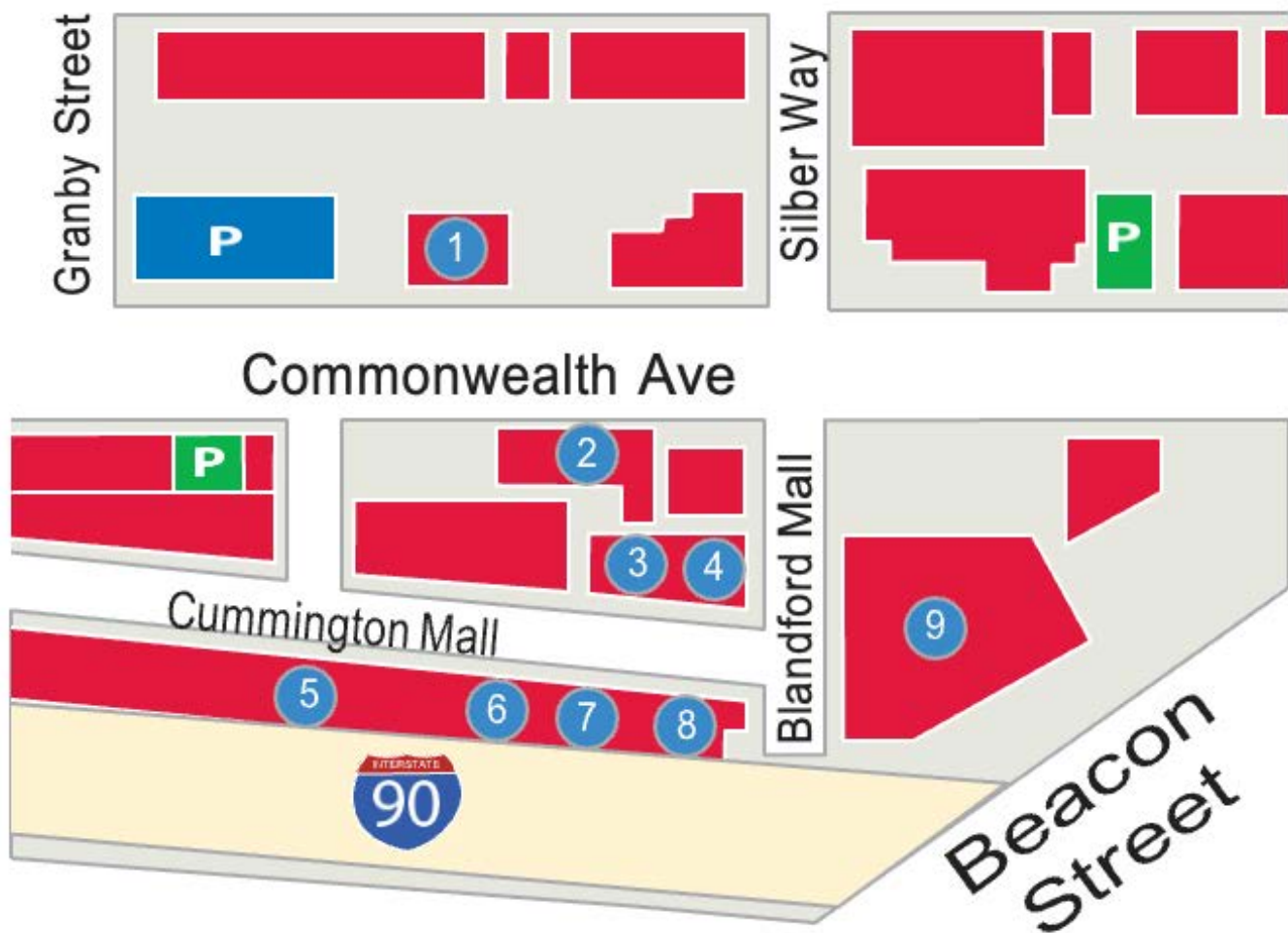
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## Facilities

All persons using MCBB Program facilities must arrange for the use of these facilities through the staff or faculty member responsible for the facility. In general, students and faculty should use the resources in the department in which the student's advisor is housed. Persons wanting access to these facilities must contact the responsible staff member and must familiarize themselves with the regulations governing instrument use and maintenance.



- 1 Sargent College of Allied Health & Rehabilitative Sciences (SAR)**  
**635 Commonwealth Avenue**

  - Offices and laboratories for Health Sciences
  - Instructional Resource Center
- 2 Center for Integrated Life Sciences & Engineering (CILSE)**  
**610 Commonwealth Avenue**

  - Offices and laboratories for neuroscience, systems/synthetic biology, engineering, and physicians from Medical and Charles River campuses
  - Community and colloquium spaces
  - Cognitive Neuroimaging Center
  - Satellite Vivarium
- 3 Biology Research Building (BRB)**  
**5 Cummington Mall**

  - Biology & MCBB administrative offices (Room 101)
  - Biology & MCBB Graduate Student Lounge (Room 117)
  - Biology research laboratories and offices
  - Classrooms and seminar rooms
  - Biology Department Workshop
  - Stable Isotope Laboratory
- 4 Physics Research Building (PRB)**  
**3 Cummington Mall**

  - Offices and laboratories for Physics
  - Classrooms
  - Electronics Facility
  - Super-Computer Facility
- 5 Engineering Research Building (ERB)**  
**44 Cummington Mall**

  - Offices and laboratories for Biomedical Engineering faculty
  - Seminar rooms, instrument rooms, and environmental rooms
  - Biomedical Data-Acquisition Lab
  - Cell & Biomolecular Mechanics Instructional lab

- 6 Center for Advanced Biotechnology (CAB)**  
**36 Cummington Mall**

  - Research center for College of Engineering and School of Medicine: Engineering, Biology, Chemistry, Physics, and Medicine
  - Darkrooms, clean rooms, tissue culture, seminar, study, and computer rooms

**Science and Engineering Library**  
**38 Cummington Mall**

  - Library for most of the University's holdings in Science & Engineering
- 7 Life Science & Engineering Building (LSE)**  
**24 Cummington Mall**

  - Offices and laboratories for Biology, Chemistry, and Biomedical Engineering
  - Darkrooms, autoclaves, cold rooms, ultracentrifuges, shakers, scintillation counters, and imaging equipment
  - Proteomics and Imaging Core Facility
  - Media Center
  - Departments of Biology & Chemistry Stockroom
- 8 Biological Science Center (BSC)**  
**2 Cummington Mall**

  - Biology research laboratories and offices
- 9 Metcalf Center for Science and Engineering (SCI)**  
**590 Commonwealth Avenue**

  - Offices and laboratories for Chemistry, Physics, and Biology
  - Classrooms and seminar rooms
  - Introductory Biology Office
  - Laboratory Animal Care Facility (LACF)

## Molecular Biology, Cell Biology & Biochemistry (MCBB) Program

The interdepartmental graduate Program in Molecular Biology, Cell Biology & Biochemistry (MCBB) offers both M.A. and Ph.D. degrees. The MCBB curriculum is designed to provide a solid foundation in these three and related interdisciplinary fields through coursework, seminars, and research, in order to prepare students for research and/or teaching positions in academia, industry, or government.

### MCBB Program Requirements:

#### Seminars

Each year in the program, Ph.D. students must participate in an MCBB-approved seminar program where they attend and present their research in a seminar. Approved seminar series for MCBB Ph.D. students include the CM/MCBB Graduate Student Seminar, the ChemBio seminar series, the Neuroscience graduate student seminar series, and others. There are also several optional seminars and colloquia. In their first year, MCBB students attend and take for credit MB583/584 (described directly below).

*Required Seminar for First-Year Ph.D. Students:*

**CM/MCBB Graduate Student Seminar (BI/MB 583/584):** This seminar is required for MCBB students in their first year and for continuing students who conduct research related to Cell & Molecular Biology. It provides an opportunity for students and faculty in the cellular & molecular sciences to meet each week in a research setting, and creates a forum for the exchange of ideas. Ph.D. students annually present their laboratory research. MA students are also expected to attend. Meets Fridays at 12:20 PM in LSE B01.

*Optional Seminars and Colloquia:*

**Biology Seminar Series:** A colloquium of outside speakers from various fields related to Biology. Meets Monday at 12:20 PM in LSE 103. Students are also encouraged to collectively invite 1-2 speakers in this seminar series each year. <http://www.bu.edu/biology/news-events/2017-seminar-schedule/>

**Biomedical Engineering Seminars:**

*The Hearing Research Center Seminar Series* – Fridays at 10:30 AM, details can be found at <https://www.bu.edu/hrc/seminars-and-events/seminar-calendar/>

*The Brain and Vision Seminar Series* - more info can be found at <http://www.bu.edu/bravi/news/seminars/>

**Graduate Program in Neuroscience (GPN) Seminars:** More information can be found at <http://www.bu.edu/neuro/>

**The Bioinformatics Graduate Program Seminars:** More information can be found at <http://www.bu.edu/bioinformatics/news/events/>

**BU-BMC Cancer Seminar Series:** More information can be found at <http://www.bumc.bu.edu/cancercenter/seminars/>

**Chemistry Department Seminars:** More information can be found at <http://www.bu.edu/chemistry/seminars/>

*Monday Colloquium* - Mondays at 4 PM in SCI113

*Physical Chemistry Seminar Series* - Wednesdays at 2 PM in SCI 512

**Systems Biology Seminars:** Thursdays at 12:45 PM, LSE 103. Details can be found at: <http://sysbio.bu.edu/>

**Thesis/Dissertation Defense Seminars:** These seminars are widely announced via student email lists and through postings throughout the various science buildings. They vary in frequency; all students are encouraged to attend.

## Ph.D. Course Requirements

A total of 64 credits is required. Of these 64 credits, at least 20 credits must derive from core lecture or seminar courses, and a minimum of 12 credits from elective courses. The remaining 32 credits normally consist of research credits. All incoming Ph.D. students are admitted into the dual Masters/Ph.D. program. The MCBB program no longer has a separate post-master's Ph.D. program. However, incoming students with previous graduate credits, including from a Master's degree at a different institution, may apply to transfer course credits toward the Ph.D. degree. The MCBB Program Committee will determine how many previous courses are appropriate to accept, on a case-by-case basis. MCBB course requirements are as follows:

- GRS BI 735 Advanced Cell Biology (4 cr) (or the equivalent)
- GRS BI 753 Advanced Molecular Biology (4 cr) (or the equivalent)
- GRS MB 721 Graduate Biochemistry (4 cr) or MB 722 Advanced Biochemistry (4 cr)
- GRS MB 697 A Bridge to Knowledge: A Practical Seminar for First-Year Graduate Students (1 cr)
- CAS MB 581 Grant Writing Seminar (2 cr)
- CAS MB 583\* Progress in Cell & Molecular Biology (2 cr)
- CAS MB 584\* Progress in Cell & Molecular Biology (2 cr)
- GRS MB 791 Graduate Laboratory Rotations 1 (2 cr)
- GRS MB 792 Graduate Laboratory Rotations 2 (2 cr)
- Quantitative course (3-4 cr), as most appropriate for the student's PhD research\*\*
- 8 credits in elective courses, chosen in consultation with the student's advisor\*\*

## M.A. Course Requirements

A total of 32 credits is required. Course requirements are as follows:

- CAS BI 552 Molecular Biology I (4 cr)
- CAS BI 553 Molecular Biology II (4 cr)
- GRS BI 621 Biochemistry I (4 cr)
- GRS BI 622 Biochemistry II (4 cr)
- GRS BI 735 Advanced Cell Biology (4 cr)
- CAS MB 583\* Progress in Cell & Molecular Biology (2 cr)
- CAS MB 584\* Progress in Cell & Molecular Biology (2 cr)
- 8 credits of elective courses and/or research credits, chosen in consultation with the student's advisor and regulated by the MA program for which they are enrolled\*\*

*\* Students are required to attend a seminar, like BI 583/BI 584, throughout their graduate career but only 4 credits may count toward the degree.*

*\*\* Research and approved elective courses and quantitative courses on page 14. No more than 8 credits may be derived from two-credit seminars.*

## Transfer of Credits

Students may request for transfer credit, based on courses at other institutions, through the online Transfer of Credit Request Form from GRS. There are specific steps for requesting transfer credit:

1. Students first submit the form online for the courses and credits they seek to transfer from another institution. The form first goes to the GRS Records Office to determine whether these specific courses are eligible to be transferred in accordance with GRS policy.
2. If the courses are eligible, GRS will forward the request via email to the MCBB Director (copying the administrator) for review and approval.
3. GRS staff will not apply credits to a student's record without approval from the program.

## Elective & Quantitative Courses

Below is a list of courses that are approved for MCBB elective credit. One course among those denoted with a "◆" symbol can be taken to satisfy the quantitative course requirement. Some courses are not offered on a regular basis. Students should consult course bulletins offered by participating departments and/or class schedules, available each semester, for details. Additionally, some courses require prerequisites so be sure to review course descriptions and eligibility requirements. Other courses, subject to the approval of the MCBB Program Director, may also be appropriate, depending on the student's area of research. To obtain credit for courses not on the approved list, students need to petition in advance the MCBB Program Director to request approval.

### Molecular Biology, Cell Biology & Biochemistry

MB 701/702 Graduate Readings in MCBB [*MA scholarly review track only*]

### Biochemistry & Molecular Biology

BB 522 Molecular Biology Laboratory (4 cr)

### Bioinformatics

BF 527 Bioinformatics Applications (4 cr)

BF 571 Dynamics and Evolution of Biological Networks (4 cr) ◆

### Biology

BI 545 Neurobiology of Motivated Behavior (4 cr)

BI 551 Biology of Stem Cells (4 cr)

BI 565 Functional Genomics (4 cr)

BI 560 Systems Biology (4 cr)

BI 572 Advanced Genetics (4 cr)

BI 576 Carcinogenesis (4 cr)

BI 577 Quantitative Approaches in Molecular Biology (4 cr) ◆

BI 581/582 Seminar in Biology (2 x 2 cr)

BI 594 Topics in Biology (var. topics) (4 cr)

BI 610 Cellular Aspects of Development and Differentiation (4 cr)

BI 645 Neurophysiology (4 cr)

BI 655 Developmental Neurobiology (4 cr)

BI 681 Molecular Biology of the Neuron (4 cr)

BI 708 Systems Developmental Biology (4 cr)

### Chemistry

CH 625 Enzymology: Mechanisms of Enzymatic Reactions (4 cr) ◆

CH 626 Epigenetics (4 cr)

CH 627 RNA Structure and Function (4 cr)

CH 632 Advanced Coordination Chemistry II: Inorganic Reaction Mechanisms (4 cr)

CH 633 Physical Methods of Inorganic and Bioinorganic Chemistry (4 cr)

CH 634 Metallobiochemistry (4 cr)

CH 722 Protein Chemistry (4 cr)

CH 724 Special Topics in Biochemistry: Quantitative Biochemistry (4 cr) ◆

CH 744 Chemical Biology (4 cr)

### **Computer Science**

CS 542 Machine Learning (4 cr) ◆

### **Engineering**

ENG BE 500 Special Topics in Biomedical Engineering (4 cr)

ENG BE 508 Quantitative Studies of the Respiratory and Cardiovascular Systems (4 cr)

ENG BE 517 Optical Microscopy of Biological Materials (4 cr)

ENG BE 560 Biomolecular Architecture (4 cr)

ENG BE 562 Computational Biology: Genomes, Networks, Evolution (4 cr) ◆

ENG BE 567 Nonlinear Systems in Biomedical Engineering (4 cr) ◆

ENG BE 568 Systems Biology of Human Disease (4 cr) ◆

ENG BE 726 Biomaterials & Tissue Engineering I (4 cr)

ENG ME 500 Special Topics in Mechanical Engineering (4 cr)

### **Mathematics**

MA 565 Mathematical Models in the Life Sciences (4 cr) ◆

MA 579 Numerical Methods for Biological Sciences (4 cr) ◆

MA 581 Probability (4 cr) ◆

MA 681 Accelerated Introduction to Statistical Methods for Quantitative Research (4 cr) ◆

MA 684 Applied Multiple Regression and Multivariable Methods (4 cr) ◆

MA 770 Mathematical and Statistical Methods of Bioinformatics (4 cr) ◆

### **Physics**

PY 771 Concepts in Biophysics (4 cr)

### **Additional Approved Elective Courses in Other Departments**

SPH (School of Public Health) BS 704 Introduction to Biostatistics (3 cr)

SPH (School of Public Health) BS 723 Introduction to Statistical Computing (4 cr)

GMS (BU Medical Campus) BT 520 Biology of Cancer (4 cr)

GMS (BU Medical Campus) MI 713 Comprehensive Immunology (4 cr)

GMS (BU Medical Campus) MI 823 Special Topics in Microbiology (4 cr)

### **Research Courses**

MB 907/908 Research in MCBB (variable credit)

Consult your advisor and/or the Graduate Program Specialist for the specific number of research credits that you should register for each semester. The following can be used as a guide; however, it is important to review the course credit requirements for your program and your individual academic progress and funding in consultation with your advisor [maximum of 32 total credits of research for PhD students]:

*Only registering for research credits (not teaching)* - register for 6 credits of research

*Only registering for research credits (and teaching)* - register for 4 credits of research

*Registering for courses and research credits (not teaching)* - register for 4 credits of research

*Registering for courses and research credits (and teaching)* - register for up to 2 credits of research

## Academic Requirements

Students must maintain a 3.0 GPA to graduate. Grades below B- and permanent "I" grades do not count towards graduation. The accumulation of more than two grades lower than B- results in dismissal from the Graduate School. A student receiving a grade lower than B- in a graduate course will be counseled by their faculty advisor and the MCBB Director will be informed. A student who receives a second grade lower than B- or whose cumulative GPA falls below 3.0 in the core and elective courses used toward the degree for more than one semester will be counseled by the MCBB Director, will lose good academic standing, and will be placed on academic probation. All Program guarantees are dependent on being in good academic standing.

The MCBB Program Director will advise the student on academic probation of the specific time frame generally within two semesters during which the student must re-establish a cumulative GPA of 3.0 in the core and elective courses used toward the degree and, thus, regain good academic standing. Failure to meet these requirements within the specified time, or receipt of a third grade lower than B- will result in a recommendation to the graduate school for termination of the student's enrollment at the University. Appeals of the decision to recommend termination may be made to the MCBB Program Director.

## Annual Reports

All MCBB students must submit an Annual Report, usually at a prescribed date in early October for the previous academic year (September - September). This report is completed on forms provided by the Graduate Program Specialist. These forms include a summary of courses completed, research progress, courses taught, examinations passed, committee members and meetings held, publications and presentations, a current transcript, and an assessment by the student's Faculty Advisor.

During each year after advancement to candidacy, Ph.D. students should present either a written or oral report on research progress to their Dissertation Advisory Committee. Normally, this occurs at the annual meeting of the committee. The committee meeting date and synopsis must be included on the Annual Report. The assessment by the Faculty Advisor should include progress of the student, plus any deficiencies in course work, examinations, or research progress. Any recommendations, if needed, should be made to the student. Students failing to comply with these recommendations may be subject to probation and loss of financial support. Some sections of the Annual Report may not be applicable to all students depending on their degree and their time in the program. **Students failing to submit the Annual Report by the deadline may not be eligible to register or their registration may be withdrawn, which can result in problems with continued financial support.**

## Responsible Conduct in Research

All MCBB Ph.D. students and M.A. students conducting research are required to complete the Responsible Conduct in Research (RCR) training during their first two years in the program. Generally, this consists of four training sessions. Students are encouraged to continue to attend RCR training sessions subsequently as topics change. RCR is offered through the Provost's Office and involves a series of afternoon training sessions of lectures and round table discussions covering topics such as proper data acquisition and management, research collaboration ethics, publication responsibilities, social responsibility in research, research that involves human subjects, and research that involves animals. Information about this series will be provided at appropriate times during the academic year.



## Teaching

The MCBB Program requires participation in teaching as a part of the Ph.D. degree. This consists of teaching in laboratory and/or discussion sections for at least two semesters during the student's graduate career. This requirement can be satisfied by teaching in any of the participating departments in the MCBB program, or, in special cases, by teaching experience outside the departments or University.

## Requirements for the Doctor of Philosophy Degree (Ph.D.) in MCBB

Officially, the Ph.D. must be completed within seven years after the first registration for doctoral study. Ph.D. degrees are conferred in May, August, or January, as specified in the Graduate School Bulletin. In addition, the Ph.D. candidacy expires five years after passing the Qualifying Examination. These deadlines can be extended upon approval of the MCBB Director and the Dean of the Graduate School. Petition forms for extending Ph.D. training beyond the seventh year can be obtained from the Office of the Graduate School of Arts & Sciences.

## Laboratory Rotations

First-year Ph.D. students who enter the MCBB Program with University or Departmental support (i.e., Teaching Fellowship, Dean's Fellowship) will generally perform at least three laboratory rotations during their first academic year. These laboratory rotations must be with MCBB or approved faculty, and each rotation is approximately 8 weeks. After these rotations, students provide the faculty with a rank-ordered list of faculty mentors with whom they would like to carry out their Ph.D. dissertation research. The faculty then meet to determine matches of students with major dissertation advisors. In some cases, students do additional rotations in order to find a laboratory for their Ph.D. research.

## Faculty Advisor

Students admitted to the Ph.D. program are assigned a temporary faculty advisor, who is generally the Director or Associate Director of the MCBB program. By the end of the second semester of the first year, a permanent research advisor should be selected (see above).

## Qualifying Exam

The Qualifying Examination consists of two parts: 1) a written research proposal and 2) an oral defense of this research proposal. The qualifying exam is expected to be completed within 2.5 years of matriculation into the MCBB Ph.D. program.

### Qualifying Exam Committee

In consultation with the research advisor, the student selects a Qualifying Examination Committee consisting of five faculty members. This committee must include the major professor and at least two other MCBB faculty members. If one or two committee members are outside of MCBB and are not the faculty of BU, then approval is required by the MCBB Program Director. A form listing the Qualifying Examination Committee and the proposed date of the examination, signed by both the student and the research advisor, must be submitted to the MCBB Director approximately one month prior to the exam.

### Written Proposal

The student, after limited consultation with the major professor, submits a written proposal of an intended research project. The academic code of conduct applies, and the written document should be from the student's own hand, certainly not just cutting and pasting old grant proposals, papers, etc. The major professor may have input in the form of suggestions on content and organization, but should not directly edit the document. This proposal should include a comprehensive introduction, complete with appropriately cited literature, a list of Specific Aims, and an outline of the intended experiments. Preliminary data may be included, but it is not required. The proposal should be concise, and is generally approximately 20 pages long, double-spaced. Often students will look at a Qualifying Proposal by a previous student in the mentor's lab or the MCBB program for guidance. The written proposal must be submitted to the Chair of the Qualifying Examination Committee at least two weeks prior to the scheduled examination. The Chair of the Committee will confirm that the proposal is ready for submission to the remaining committee members. Examples of appropriate Qualifying Examination proposals are on file in the Graduate Program Specialist's Office. If the proposal is not organized or written properly, the Chair will ask the student to make appropriate changes and resubmit it for approval. If necessary, the date of the exam may then be re-scheduled. After approval by the Chair of the Committee, the student will confirm the time and date of the examination with all committee members.

### Oral Exam

At the examination, the student is required to give an oral defense of the proposal. This usually begins with the student giving a short (15-20 minute) audiovisual presentation. The media and content for the presentation should be approved by the Chair of the Qualifying Committee prior to the examination with the concept in mind that this is an examination and not a seminar. The committee then poses questions related to the intended research, background information, and the field of the work. The committee may also question the core areas of molecular biology or other related fields, e.g., cell biology, biochemistry, or genomics, as they pertain to the general scientific field of the research proposal. The committee Chair will ensure that the questions are appropriate (e.g., not too far afield) and that each committee member has sufficient opportunity to question the student.

### Advancing to Candidacy

The student's Qualifying Examination Committee is responsible for grading the exam. By passing, this exam, the student advances to candidacy for the Ph.D. Two or more negative votes or a negative vote by the major professor on the Qualifying Examination constitutes a failure. A student failing this examination has the opportunity to take it again; but at least three months must elapse before a student retakes the exam. Failure of the second examination is grounds for automatic dismissal from the Ph.D. program and the loss of any further financial aid. If a student fails for the second time, but at least four members of the Qualifying Examination Committee, including at least two of the MCBB faculty, vote that the student's performance on the examination was at a level appropriate for an M.A. degree, then the M.A. degree can be conferred. For this M.A. degree, the student must also have completed at least 32 credits of graduate level course work.

### Master's Certificate of Completion

Ph.D. candidates may apply for a M.A. degree in MCBB after they have successfully passed their Qualifying Examination and completed 32 credits of graduate level course work.

The student's major professor receives notification of this application process.

## Dissertation

The overall responsibility for the successful completion of the dissertation lies with the candidate, who, through insight, initiative, and resourcefulness, shall make a significant contribution to the knowledge of their specialized field. For the Ph.D. degree, a dissertation describing original research of publication quality is required. There is no formal requirement for the number of publications that a student must have completed prior to the defense; however, most students have multiple papers that have been published, are on a pre-print server (e.g. *bioRxiv*), are in review, or are in preparation prior to the defense. The dissertation is "defended" at the Final Oral Examination (Dissertation Defense) at a time agreed on by the student and the Dissertation Committee. At least two weeks prior to this defense, all work that comprises the defense and the written dissertation, which has been approved by the First and Second readers, must be distributed to the full Dissertation Committee. At the Defense, the committee must agree on the adequacy of the body of work and the written dissertation in order for the Ph.D. degree in MCBB. A formal public seminar by the candidate (Dissertation Seminar) is required as well.

**Dissertation Advisory Committee:** Within six months after advancing to candidacy for the Ph.D. in MCBB, the student and their major professor must jointly convene a Dissertation Advisory Committee, which will then continue to meet with the student at least once a year. At these meetings the committee evaluates the research progress and advises on future research directions of the student. This committee consists of no fewer than four faculty members, of whom at least two must be members of the MCBB Program and the majority of the Committee must be BU faculty members. The Committee shall include the major professor and other scientists who are either faculty at academic institutions or a comparable level of standing and experience at a scientific institution such as industry. Having one faculty member on the Dissertation Advisory Committee who is outside of the MCBB program (or even BU) is encouraged.

The Dissertation Advisory Committee shall consist of at least four faculty members: 1) a Chairperson, 2) a First Reader (major professor), 3) a Second Reader, and 4) at least one other member. Having a third official Reader and/or a fifth committee member is optional. The designated dissertation readers are those faculty members who must ultimately approve the written Ph.D. dissertation and sign the final dissertation approval page. The Chairperson and First Reader (major professor) must be members of the MCBB Program and must be present at the final dissertation committee meeting and at the dissertation defense. The Committee Chair must be a BU faculty member, and can be a designated reader (but not the First Reader), an additional committee member, or serve only in the capacity of Chair for the defense. It is suggested that the Second Reader be a BU faculty member, unless the student has been directly advised by a scientist outside of BU. The fourth member of the committee may be chosen from other faculty of BU or from other institutions upon approval of the MCBB Director and the Dean of the Graduate School. A "Special Service Appointment Form" must be filled out and, with the CV of the proposed committee member, submitted to the Graduate Program Specialist. These forms are available on the GRS website. It is suggested that the composition of the Dissertation Committee remain the same for the duration of the student's graduate program unless changes in the direction of the research dictate new areas of expertise on the committee. A student cannot change the members of the dissertation

committee after submission of the Dissertation Prospectus to the Graduate School without approval of the MCBB Program Director.

**Organization of the MCBB Ph.D. Dissertation:** Rules concerning page sizes, page numbering, etc., of the dissertation can be obtained on the Graduate School website under *Dissertation Formatting Guide and Draft Submission*. The Graduate School rules must be strictly followed. In addition, GRS provides templates that can be used for Dissertations.

Below is an additional set of guidelines, which are applicable to all MCBB Ph.D. dissertations. The format of the complete dissertation document submitted at the time of the defense should meet the specifications of the Graduate School for final submission of the dissertation as well as the guidelines that follow:

#### **a. Comprehensive Dissertation Format**

In general, the dissertation is organized in the following comprehensive format. The exact format to be followed is usually decided by the student in consultation with the first and second readers.

The dissertation normally includes, in order, the following sections: Title Page, Approval Signature Page, Acknowledgments, Abstract, Table of Contents, List of Figures, List of Tables, List of Abbreviations (including both a comprehensive Introduction and Discussion), several Chapters, and a comprehensive Reference List.

The dissertation should have a consistent style format from chapter to chapter. In the most common format, Materials & Methods used in different types of experiments from different chapters are combined into a single consistent Materials & Methods chapter, although in some instances, separate Materials & Methods sections for each chapter are more appropriate. References should be cited consistently throughout the dissertation. In addition to the Results and Materials & Methods chapters, there should be an initial Introduction chapter, a final Discussion chapter, and a single Reference List.

Chapter One usually provides an overall contextual Introduction to the dissertation. This includes an overview of the importance of the work, a specific introduction to the field, and a statement of the dissertation goal(s).

Chapter Two usually details the Materials & Methods used in the dissertation work.

Chapter Three (and more) describes the Results obtained from the dissertation work. These chapters include figures, tables and descriptions of original work. Often these chapters have short introductions to provide a framework for the results that follow, and sometimes specific discussion sections of those results at the end. Figures and tables must have appropriate legends.

The final Chapter should include both a specific and general Discussion of the dissertation work in light of other work in the field and beyond.

#### **b. Specific guidelines for presentation of research and data**

In all cases, details for the presentation of original data should be worked out between the student and the first and second readers. However, the following can be used as

guidelines:

- i. The dissertation must be written by the student and plagiarism is not permitted.
- ii. However, large parts of the written dissertation may be taken or adapted from material already published by the student. However, published papers cannot be simply stapled together. When the work is part of a multi-authored paper the student should clearly designate any experiments and analyses that were performed by co-authors, giving credit in the text as well as in the figure legends or table footnotes. In order that the student does not infringe on any copyrights, the student should be sure that they have prior permission from the publisher to use any copyrighted material in their dissertation.
- iii. In general, all data relevant to the dissertation should be included in the dissertation. It is usually not acceptable to list primary, relevant data as “data not shown” or to refer to primary data published in another source.
- iv. It is recognized that figures within the dissertation may not be consistent. For example, figures may have been taken from published articles in journals with different style formats. In general, it is not necessary to revise figures specifically for the dissertation.
- v. Original figures (even in the final Graduate School versions of the dissertation) are required only where it is necessary to properly evaluate primary data. For example, students are encouraged to use electronic scans or images of autoradiographs if relevant data are clear.

### c. References

References must be listed and cited according to a standard and consistent journal format, including the guidelines provided here.

- i. Journal articles included in the Reference List must include all authors, year published, title of the article, journal (full name), volume, and inclusive pages. Abbreviations of journal names may be used if the final Reference List is preceded by a list of all abbreviated journals along with the full name of each journal.
- ii. References should be ordered alphabetically in the final Reference List. If a given first author has multiple citations, these should be ordered chronologically in the list (starting with the earliest publication). If a given first author has multiple papers in a single year, they should be designated by “a” and “b” (e.g., Doe et al., 1988a; Doe et al., 1988b, etc.), and should be ordered alphabetically by last name of second author. All references included in the final Reference List must be cited at least once within the text of the dissertation, and all references cited within the text must be included in the final Reference List.

**The following provides examples of a suggested concise format for references:**

(Journal Sample)	Monod J, Changeux, J-P, Jacob, F. (1962) Allosteric proteins and cellular control systems. <i>Journal of Molecular Biology</i> 6: 306-309.
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(Book Sample)	Pauling L. (1960) <i>The Nature of the Chemical Bond</i> , 3rd ed., Cornell University Press, Ithaca NY.
(Edited Book - Chapter Sample)	Smith WL, Borgeat P. (1985) The eicosanoids: prostaglandins, thromboxanes, leukotrienes, and hydroxyeicosaenoic acids). In, <i>Biochemistry of Lipids and Membranes</i> , 2nd ed. (Vance, D.E. & Vance, J.E., eds.) Benjamin/Cummings, New York, pp. 325-360.
(Abstract Sample)	Pirani A, Allen KN, Tolan DR, Craig X, Lehman W. (2004) Electron microscopy and 3D reconstruction of dimeric aldolase on F-actin. <i>The Biophysical Society</i> , Baltimore, MD 14-18 February.

iii. Citations within the text should provide author(s) and date, and be listed in parenthesis. If two authors, use Doe & Smith; if more than two authors, use Doe et al. If multiple citations are given within a single set of parentheses, the citations should be separated by semicolons, and ordered by year. That is, the above references would be cited in the text as (Pauling, 1960; Monod et al., 1962; Smith & Borgeat, 1985; Pirani et al., 2004). If one discusses a specific study within the text, include only the year in parentheses; for example, "Monod et al. (1962) showed that..."

**Preparation and Submission of a Ph.D. Dissertation in MCBB:** Conferral of the Ph.D. degree in MCBB is dependent upon the successful preparation and defense of a Ph.D. dissertation on original research conducted by the student. There are three Ph.D. dissertation deadlines per year. A precise timetable for completion of essential steps in submission of a Ph.D. dissertation can be obtained from the Graduate School office. A timetable for the preparation and defense of the dissertation can be found at the end of this section. These steps, and MCBB Program requirements and guidelines, are summarized briefly here.

- a. Approximately 9 months prior to the proposed graduation date, a formal Dissertation Prospectus (dissertation outline) must be submitted to the Graduate School Office. The dissertation outline should be prepared in consultation with and with the approval of, the First and Second Readers. The Director of the MCBB Program must also approve the Dissertation Prospectus. This document generally provides an outline and text description of the major chapters and subheadings to be included in the Ph.D. dissertation. At the beginning of the outline of each Chapter, there should be a short text description that provides an overview of what will be presented in the Chapter. The Dissertation Prospectus is generally approximately 3 to 7 typed pages. It is recommended that the Prospectus be approved by the First Two Readers and the Dissertation Committee before final submission. If you would like an example of an MCBB Prospectus, ask the Graduate Program Specialist or the MCBB Director.
- b. At least three months prior to the proposed graduation date, the Intent to Graduate Form must be submitted to the Graduate School. The Intent to Graduate Form is available on the Graduate School website, and simply indicates the student's desire to be considered for a thesis defense for the next graduation date. If that deadline passes, and the dissertation is not yet complete and defended, another Intent to Graduate Form needs



to be submitted for a subsequent deadline.

c. Approximately two months before the defense, the student should meet with the Graduate Program Specialist to review the timeline and requirements for graduation.

d. At least three weeks prior to the Dissertation Defense:

i. An Abstract of the dissertation must be submitted to the Graduate School Office. This Abstract (generally 350-400 words) must be approved by the First and Second Readers, and by the MCBB Director. Note: the Abstract should not include the use of "we," as in "we carried out experiments to..." Rather one should write, "Experiments were carried out to..."

ii. For formatting purposes only, the draft of the dissertation should be submitted to GRS by attaching the draft to an email message to [grsrec@bu.edu](mailto:grsrec@bu.edu). Notification will be sent if the format is approved.

Because the formatting of the dissertation can be time consuming, students are advised to have all formatting issues be resolved prior to the dissertation defense. Following the defense, ample time should be allotted to complete all corrections and content revisions that are required by the Defense Committee. These revisions often take approximately two weeks to complete.

Videos that are helpful when formatting the dissertation are located at BUiverse at: [http://www.bu.edu/buniverse/search/?q=&sort=created\\_on&view=detailed&owner=dioa](http://www.bu.edu/buniverse/search/?q=&sort=created_on&view=detailed&owner=dioa)

e. At least two weeks prior to the Dissertation Defense, all work comprising the dissertation, which is prepared as described below and approved by the First and Second Readers, should be distributed to all members of the Dissertation Committee. The draft Dissertation for review should either be as a hard copy or electronic version, depending on each committee member's preference. The student should prepare the dissertation in close consultation with the First and Second Readers. Ordinarily the dissertation will go through several revisions by the First Reader, followed by one or more revisions by the Second Reader, before it is submitted to the full committee prior to the defense.

**Preparation for the Ph.D. Dissertation Seminar and Defense in MCBB:** Defending the Ph.D. dissertation requires both a public seminar and a private defense with the Dissertation Defense Committee. Generally, these two events occur together on the same day (with a public seminar followed by the private defense), although an option exists for delaying the public seminar until a later date after the private defense. Formal announcement of the Dissertation Seminar and Defense will be made in several ways. It is the responsibility of the student to see that the following matters are taken care of:

a. At least two weeks prior to the Dissertation Defense a schedule of the Final Seminar and Defense (time, place and list of Dissertation Committee members) must be submitted to the Graduate School Office, along with a copy of the approved Dissertation Abstract. The Graduate School Office will then mail a formal announcement of the Dissertation Defense to all committee members. The Chair of the Dissertation Defense Committee will also

receive paperwork needed to be filled out at the defense.

b. A booklet containing an announcement of the Dissertation Seminar and Defense, the Dissertation Abstract, and a brief CV of the candidate must be distributed. This should be prepared by the student and can be given to the Graduate Program Specialist for printing and distribution. A template can be provided by the Graduate Program Specialist. The Dissertation Seminar is also publicized by informal posters and e-mail by the Graduate Program Specialist.

### **Formal Dissertation Seminar**

This is a PowerPoint-style presentation of the dissertation research, and will ordinarily last 45-50 minutes and is open to the public. This seminar is usually presented immediately before the dissertation defense, at which all Dissertation Committee members must be present. At the discretion of the student and the First Reader, an option exists for the student to present the Dissertation Seminar at a date following the passing of the private Dissertation Defense. If this second option is chosen, then the public seminar is normally scheduled at the Dissertation Defense. In this case, only the First Reader and Chair of the Dissertation Committee are required to public the seminar.

### **Dissertation Defense**

At the private dissertation defense, the committee discusses with the candidate the dissertation research and the written dissertation. All Committee members must participate. By prior arrangement one member of the committee may participate via Skype/Zoom with interactive video and audio, however it is advisable to have a backup committee member available in the event of technical difficulties. If the formal Dissertation Seminar is to occur at a later date, the student should still prepare a 45-to-50-minute PowerPoint presentation of the dissertation work for the committee, to initiate the thesis defense. The student should be prepared to defend all aspects of the work. Committee members ensure that the research is complete, that it was performed by the candidate, and that the candidate understands both the methodological and scientific underpinnings, as well as the overall significance to the field. Furthermore, committee members voice any concerns over data or the preparation of the dissertation. The discussion usually lasts 1-2 hours. Based on how well the dissertation experiments are designed, performed, and defended, and on how well the dissertation is prepared, the committee votes on whether the dissertation is complete and the defense and preparation of the thesis are satisfactory. Two or more committee members voting that the dissertation/defense is not complete or not satisfactory requires another Dissertation Defense for a decision about whether the Ph.D. degree should be offered. Furthermore, the First Reader (Major Professor) must vote positively for the candidate to pass, as the First Reader's signature is required on the final, submitted dissertation. If the vote results in a positive outcome, but revisions are required, the committee and candidate should agree on the amount of time necessary for the candidate to meet any of the committee's objections. The Dissertation Defense Committee Chair must also sign the Graduate School Exam Report and the Committee should agree on the wording of the dissertation title and abstract.

### **Revision and Submission of the Final Dissertation**

Ordinarily the candidate receives written comments from all committee members, which should be incorporated, in consultation with the First and Second Readers, into a final version



of the dissertation. Upon satisfactory completion of revisions, the First and Second Readers must sign and approve the signature pages of the final version of the dissertation. Once all corrections and revisions required by the Defense Committee have been completed, the final approved dissertation is submitted electronically to the ETD Administrator (<http://www.etsadmin.com/bu>). The final electronic version will be reviewed by GRS and then forwarded to the Mugar Library ETD Administrator for the final format review, before its submission to ProQuest/UMI Administrator.

### **Policy on Embargoing Dissertations**

In some circumstances, a student and/or the First Reader may not want the dissertation to be available from ProQuest or the Digital Common immediately after it is submitted to them. Circulation restrictions (referred to by ProQuest as “embargoes”) may be allowed by the Graduate School of Arts & Sciences for compelling circumstances, e.g., if the work is planned for sale to a publisher, is intellectual property intended for a patent application, requires completion by colleagues/collaborators prior to submission to a journal or covers a sensitive subject that cannot be published safely or appropriately at the time. In such cases, you may request a restriction for any period between six months and two years (ProQuest default options are six months, one year, or two years). For any time period, you must submit a letter requesting a restriction along with the PDF of the dissertation through ProQuest’s ETD Administrator. The letter must explain the compelling reason for the embargo, the time limit desired, an address where you can be contacted when the time limit expires, and the signed approval of both you and your major advisor. These letters are reviewed and, if appropriate, approved by the Associate Dean of GRS. The restriction will start from the date on the letter. A sample letter is provided on the GRS website. Your thesis manuscript will not be available until the embargo is released. While under embargo, no one is permitted to look at your work unless they have your express written permission to do so. Requests to read your dissertation prior to release will be forwarded to you. It is your responsibility to respond to such requests.

Note: If either office notifies the student of required corrections or changes, these changes must be made immediately. A quick response will avoid being required to register for another semester, a delay in verifying the completion of the degree requirements, and a delay in issuing of the diploma. It may take some time before the final library review is complete.

### **Final Administrative Tasks for Completion of Program Requirements**

- The student should provide final copies of the dissertation to the first and second readers (and, when requested, to other members of the Dissertation Committee) as well as an electronic copy to the Graduate Program Specialist.
- See following pages for the complete list of deadlines for the Ph.D. requirements.

## **Requirements for the Doctor of Philosophy Degree (Ph.D.) in MCBB**

- ☐ Participation in weekly seminars
- ☐ 64 credits (minimum of 32 credits of lecture/seminar courses: 20 core credits and 12 elective credits)
- ☐ Grade point average greater than or equal to 3.0
- ☐ No more than two grades lower than a B-
- ☐ Submission each year of an Annual Report
- ☐ Completion of Responsible Conduct in Research (RCR) trainings
- ☐ Teaching in laboratory and/or discussion sections for a total of two semesters

### **By the end of the first year:**

- ☐ Completion of laboratory rotations through MCBB or approved research laboratories
- ☐ Matching to the faculty member with whom the student will perform dissertation research

### **By the end of the second year:**

- ☐ Completion of all core course requirements
- ☐ Completion of most, if not all, elective courses
- ☐ Completion of Responsible Conduct in Research (RCR) trainings

### **Annually after the second year:**

- ☐ Presentation of research in an approved Seminar Series
- ☐ At least one meeting with the student's Dissertation Advisory Committee

### **By the end of the third year:**

- ☐ Successful completion of the Qualifying Examination

### **Within the final year prior to finishing the Ph.D. degree (see next page for more details):**

- ☐ Submission of prospectus describing the proposed dissertation (~9 months prior to defense)
- ☐ Defense of the dissertation, including both a public seminar presentation and a private defense with the Dissertation Defense Committee
- ☐ Submission of the approved final dissertation to the Graduate School of Arts & Sciences

## GRS Ph.D. Graduation Deadlines (with MCBB Program deadlines)

*All degree requirements are complete only when the doctoral dissertation has been certified as meeting the standards of the Graduate School of Arts and Sciences and of the Mugar Memorial Library*

GRADUATION DEADLINES FOR:	JANUARY 13, 2023	MAY 21, 2023	AUGUST 25, 2023
Last date to hold Final Oral Exam (Defense)	December 2, 2022	April 7, 2023	July 7, 2023
Last date to submit dissertation to ETD	December 9, 2022	April 14, 2023	July 14, 2023
Last date to submit dissertation to ETD for graduation in the next semester without registering for that semester	January 9, 2023	May 8, 2023	August 4, 2023

9 - 12 months before proposed graduation date	Dissertation Prospectus & approval form due to Graduate Program Specialist for departmental review and submission to GRS
Semester prior to your intended graduation cycle	Intent to Graduate Form Completed online
About two months before dissertation defense	Meet with Graduate Program Specialist to review requirements for defense Arrange for Special Service Appointments if committee members are not BU faculty Send first draft of dissertation to readers
Once defense date is confirmed with committee	Reserve room(s) for public seminar and defense
At least three weeks prior to dissertation defense	Schedule of Final Oral Exam with Abstract Approval due to GRS Properly formatted draft of dissertation submitted as .pdf to grsrec@bu.edu
At least two weeks prior to dissertation defense	Send dissertation to all committee members
At least one week prior to dissertation defense	Send booklet to Graduate Program Specialist
See above for final dates to submit dissertation to ETD	Submit final dissertation to ETD (online submission) Email a copy of the dissertation and signature page to Graduate Program Specialist

## Requirements for the Master of Arts Degree (M.A.) in MCBB

Officially, all Master's degree requirements must be completed within three years from the date of first registration. However, students may apply to the Graduate School for extensions past the three-year deadline. M.A. degrees are conferred in either May, August, or January, as specified in the Graduate School Bulletin. The M.A. in MCBB culminates with a thesis, which can be either research- or literature-based.

### Faculty Advisor

Each student who is admitted to the M.A. degree program is assigned a faculty advisor from the MCBB Program, either the Director of the Program or a faculty member based on the student's interests. This advisor recommends a course of study for the student. It is the responsibility of the student to find an appropriate faculty member to serve as the first reader on the Scholarly Paper or Research Thesis.

### Types of M.A. Degrees

There are two types of M.A. programs for MCBB students:

#### 1. Master's with Scholarly Review Paper

##### Coursework

As stated above, students must complete 32 credits, 24 of which are fulfilled by the Required Core Courses. Students normally take MB 701 and MB 702, Graduate Readings (2 x 2 credits) under the direction of their Graduate Advisor, which serves as credit for preparation of the required Scholarly Paper. However, if this option is taken, students may not count any other two-credit courses, other than MB 583/584, towards graduation. For the remaining 4 credits, students must select from the list of Elective Courses approved by the MCBB Program. Prior course work that might be equivalent to the Required Core Courses may be petitioned to the Director or the MCBB Program Committee which may either waive the required course or accept the course for credit. Students may not use credits used to satisfy the requirements of a degree earned at BU or another institution. A typical full-time schedule would be as follows:

Fall		Spring	
CAS BI 552 Molecular Biology I	(4 cr)	CAS BI 553 Molecular Biology II	(4 cr)
GRS BI 621 Biochemistry I	(4 cr)	GRS BI 622 Biochemistry II	(4 cr)
CAS MB 583 Progress in CM Biology	(2 cr)	CAS MB 584 Progress in CM Biology	(2 cr)
GRS MB 701 Graduate Readings	(2 cr)	GRS MB 702 Graduate Readings	(2 cr)
Elective Course	(4 cr)	GRS BI 735 Advanced Cell Biology	(4 cr)
Total Credits		16 cr	16 cr

##### Scholarly Review Paper

Students must write a Scholarly Review Paper on a selected topic in the field of Molecular Biology, Cell Biology, Biochemistry, or a related field, in consultation with a faculty advisor from the MCBB Program who serves as the First Reader. The paper should review a selected current research topic and usually includes several chapters and extensive literature references. The final version of the paper must be read and approved by the

First Reader and at least one other MCBB faculty member. The paper must comply with the format described below. A final copy must be given to both readers, and an electronic copy must be submitted to the Graduate Program Specialist.

### Format of a Scholarly Review Paper for the M.A. in MCBB

- a. The first page must be a Title Page and must include the following information: the title of the paper (in capital letters); your name and BU identification number; and

A Scholarly Review Paper  
submitted in partial  
fulfillment of the degree  
of Masters of Arts in  
Molecular Biology, Cell Biology  
& Biochemistry  
Month, Year

- b. The second page must be a signature approval page and should be organized, for example, as follows:

First Reader: \_\_\_\_\_  
Karen Allen, Professor of Chemistry

Second Reader: \_\_\_\_\_  
Thomas Gilmore, Professor of Biology

- c. The third page must be a Table of Contents that lists the chapter titles and subheadings of chapters.

d. Description of Chapters: There should be a series of chapters describing the topic. Usually the first chapter provides a broad Introduction to the topic. One or more chapters should follow this that describe in some detail the specific topic, including experiments that led to the models and hypotheses that now dominate the field, or conflicting hypotheses. The final chapter usually provides a Summary and Perspective for the field.

e. Figures and Tables: If figures or tables are included in the thesis, the source from which the information has been taken must be cited, such as "(taken from Doe et al., 1995)" or "(adapted from Doe et al., 1995)". Each figure or table should follow its first citation in the text; they should not be grouped at the end.

f. Bibliography: A comprehensive reference list must be included at the end of the text, and information taken from references must be cited properly within the text.

- i. Listings in the bibliography: List must include all authors, year published, title of article, journal, or book, volume/edition, and inclusive pages.

References must be ordered alphabetically in the final reference list. If a given first author has multiple citations, these should be ordered chronologically in the final reference list (starting with the earliest publication). If a given first author has multiple papers in a single year, they should be designated by "a" and "b" (e.g., Doe et al., 1988a; Doe et al.,

1988b, etc.), and should be ordered alphabetically by first letter of second author's last name. All references included in the final Reference List must be cited at least once within the text of the paper, and all references cited within the text must be included in the final Reference List.

**The following provides examples of a suggested concise format for references:**

(Journal Sample)	Monod J, Changeux J-P, Jacob F. (1962) Allosteric proteins and cellular control systems. <i>Journal of Molecular Biology</i> 6: 306-309.
(Book Sample)	Pauling L. (1960) <i>The Nature of the Chemical Bond</i> , 3rd ed., Cornell University Press, Ithaca NY.
(Edited Book - Chapter Sample)	Smith WL, Borgeat P. (1985) The eicosanoids: prostaglandins, thromboxanes, leukotrienes, and hydroxyeicosaenoic acids) In, <i>Biochemistry of Lipids and Membranes</i> , 2nd ed. (Vance DE, Vance JE, eds.) Benjamin/Cummings, New York, pp. 325-360.
(Abstract Sample)	Pirani A, Allen KN, Tolan DR, Craig X, Lehman W. (2004) Electron microscopy and 3D reconstruction of dimeric aldolase on F-actin. <i>The Biophysical Society</i> , Baltimore, MD 14-18 February.

ii. Citations within text should provide author(s) and date, and be provided in parenthesis. If two authors, use Doe & Smith; if more than two authors, use Doe et al. If multiple citations are given, they should be separated by semicolons, and ordered by year. That is, the above references would be cited in the text as (Watson & Crick, 1953; Pauling, 1960; Monod et al., 1962; Smith & Borgeat, 1985). If one discusses a specific study within the text, include only the year in parentheses; for example, "Monod et al. (1962) showed that..."

g. Costs: All costs related to photocopying and binding of the paper are the responsibility of the student.

## 2. Master's with a Research Thesis

This option is available on an individual basis upon approval by an MCBB faculty member, who agrees to serve as the research advisor.

### Coursework

As stated above, students must complete 32 credits, 24 of which are fulfilled by the Required Core Courses. Prior course work that might be equivalent to the Required Core Courses may be petitioned to the MCBB Program Committee which may either waive the required course or accept the course for credit. Students may not use credits used to satisfy the requirements of a degree earned at BU or another institution. Students who are seeking this type of Master's degree may not take MB 701/702 for credit toward graduation. For the remaining eight credits, students select from the list of Elective Courses approved by the MCBB program or enroll for research credits under their advisor (MB 907/908). Typically, students complete the Required Core Courses in their first year.

### Research Thesis

The student must write a thesis detailing the original research that was conducted under the sponsoring faculty member. This thesis generally includes the following sections: Title Page, Approval Signature Page, Table of Contents, Abstract, Introduction, Materials & Methods, Results, Discussion, References and figures and/or tables from that research. The M.A. thesis must meet the format specifications of the Graduate School as well as those of the MCBB Program (see above details on Organization of a Ph.D. dissertation for guidelines on the format for the preparation of the M.A. Research Thesis). This thesis must be read and approved by a committee of three faculty members that includes at least two faculty members from the MCBB Program. One committee member must be the faculty member who acted as the research advisor. The student must provide final copies of the thesis to the first and second readers (and, when requested, to other members of the Dissertation Committee) as well as an electronic copy to the Graduate Program Specialist.

## GRS M.A. Graduation Deadlines (with MCBB Program deadlines)

### Master's with Scholarly Review Paper Deadlines

Deadline Dates for:	January 13, 2023	May 21, 2023	August 25, 2023
<input type="checkbox"/> Intent to Graduate Form completed online	September 23, 2022	January 25, 2023	May 26, 2023
<input type="checkbox"/> First draft of scholarly review paper to be submitted to readers	1st week of October	1st week of March	1st week of July
<input type="checkbox"/> Final copy sent to Graduate Program Specialist	1st week of January	1st week of May	1st week of August

### Master's with a Research Thesis Deadlines

*All degree requirements are complete only when the master's thesis has been certified as meeting the standards of the Graduate School of Arts and Sciences and of the Mugar Memorial Library*

Deadline Dates for:	January 13, 2023	May 21, 2023	August 25, 2023
<input type="checkbox"/> Intent to Graduate Form completed online	September 23, 2022	January 25, 2023	May 26, 2023
<input type="checkbox"/> First draft of thesis to be submitted to readers	1st week of October	1st week of March	1st week of June
<input type="checkbox"/> Properly formatted draft of thesis submitted as a .pdf to grsrec@bu.edu	Last week of November	Last week of March	Last week of June
<input type="checkbox"/> Last date for submission of Thesis to ETD, Thesis Processing Fee, and signed Approval Page to GRS Office, and Contact Information form	December 9, 2022	April 14, 2023	July 14, 2023

## Financial Assistance

### Ph.D. Students

All Ph.D. students who are in good standing in the MCBB Program are eligible for financial aid. Students admitted to the program with financial aid are guaranteed continuing support for at least five years, provided that satisfactory progress toward the Ph.D. degree is made (progress is evaluated by the student's Dissertation Advisory Committee and is based on an Annual Report). This aid includes Teaching Fellowships provided by the participating departments, Fellowships provided by the Graduate School, Research Fellowship stipends provided by the participating MCBB faculty, Traineeships provided through Training grants, and Fellowships from outside agencies awarded to students on an individual basis. The MCBB Program Committee coordinates allocation of financial aid until a Ph.D. student is associated with a Ph.D. research advisor. Thereafter, the Ph.D. dissertation advisor and their associated department has primary responsibility for providing financial aid. If all options for funding within the participating department and laboratory have been exhausted, the MCBB Program Director can be consulted regarding other possible financial options, although these other options are limited.

Ph.D. graduate students who are admitted to the MCBB Program at BU are typically supported the first year by a combination of Teaching and Dean's Fellowships during the academic year and research grant support during the summer. The MCBB faculty consider teaching to be an important part of a student's training for the Ph.D. degree, and all Ph.D. students are required to have teaching experience before the degree is conferred (also see page 17). Generally, Ph.D. students who satisfactorily complete their course work, pass the Qualifying Examination, and become associated with a major advisor in MCBB, receive Research Assistantships from their second or third year onward. The details of each award are given below:

**Teaching Fellowships (TF):** These provide a stipend plus full tuition and fees for up to four full courses per semester. Teaching responsibilities usually require approximately 20 hours per week. Full or partial awards may be given.

**Research Fellowships (RF):** These awards are given to students who assist individual faculty with specific areas of research and the stipend amount is funded by faculty research grants. There are a substantial number of graduate student research positions in the MCBB Program, which are funded through faculty research grants. These Research Fellowships provide the stipend and full tuition. The supervising faculty member determines the specific duties of the Research Fellow. Consult your faculty advisor for details on the Research Fellowship.

### M.A. Students

MCBB Master's students are not normally considered for financial aid (except for the Federal work-study program). If the Master's student is granted a Teaching Assistantship (distinct from a Teaching Fellowship), tuition must still be paid by the student.



**Training Grants:** Opportunities for support through this avenue exist. Consult your faculty advisor.

**Work Study Aid:** All eligible graduate students may apply for summer and academic year awards. Applications may be obtained from the Graduate School. Students receiving work-study aid are expected to provide service to the Department (teaching) or in the laboratory of their major professor (research). Masters candidates are eligible for these awards as well as Ph.D. students.

**National Science Foundation (NSF) Graduate Fellowships:** Graduate students in either their first- or second-year are encouraged to apply for these prestigious three-year fellowships. NSF Fellowship applications are generally due in late October of each year. For applications and instructions see the following: <https://www.nsfgrfp.org/>

**Graduate Travel Grants:** Travel Grants may sometimes be available to assist students in their travel to professional scientific meetings. Students presenting papers or posters on their research will receive first consideration. Further questions should be directed to the MCBB Director.

**Other sources:** Students see their faculty advisors for information on other potential sources of financial support. Please consult with the Director of MCBB prior to applying for other sources of financial aid so you can avoid pitfalls common with various sources and obtain in a timely fashion any required supporting documents from the Director for the application.

#### **Sigma Xi**

<http://www.sigmaksi.org/>

#### **The Leopold Schepp Foundation**

<http://www.scheppfoundation.org/>

#### **Dr. Nancy Foster Scholarship**

<http://fosterscholars.noaa.gov/>

#### **American Association of University Women**

[http://www.aauw.org/fga/fellowships\\_grants/index.cfm](http://www.aauw.org/fga/fellowships_grants/index.cfm)

#### **Explorer's Club**

<http://www.explorers.org/grants/>

#### **Switzer Foundation Fellowship**

<http://www.switzernetwork.org/>

#### **NSF Graduate Research Fellowship**

<https://www.fastlane.nsf.gov/grfp/>

#### **Graduate Women in Science**

[https://www.gwis.org/page/fellowship\\_program](https://www.gwis.org/page/fellowship_program)

#### **NSF Doctoral Dissertation Improvement Grant**

<http://nsf.gov/>

#### **NIH NRSA Fellowships**

<https://researchtraining.nih.gov/resources/>

#### **EPA GRO / EPA STAR**

<http://epa.gov/ncer/fellow/>

#### **Josephine de Karma Fellowship Trust**

<http://www.dekarman.org/>

#### **Lewis and Clark Fund for Exploration and Field Research**

<http://www.amphilsoc.org/grants>

#### **National Defense Science and Engineering Graduate Fellowship**

<https://www.asee.org/education-jobs/FELLOW-SHIPS>

#### **BU Graduate Research Abroad Fellowship**

<https://www.bu.edu/cas/admissions/phd-mfa/fellowship-aid/aid-for-phd-students/>

#### **NOAA Graduate Fellowship**

<https://www.coast.noaa.gov/>

#### **SICB Fellowship**

<https://sicb.org/jobs-and-fellowships/>

#### **National Geographic Young Explorers Grant**

<http://www.nationalgeographic.com/yeg/>

#### **NSF East Asian and Pacific Summer Institute for US Graduates Fellowship**

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5284](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5284)

#### **The Boehringer Ingelheim Fonds PhD fellowships (max. age: 27 years)**

<http://www.bifonds.de/fellowships-grants/phd-fellowships.html>

#### **California Policy Fellowships**

[fellows.ccst.us](http://fellows.ccst.us)

#### **The American Society for Biochemistry and Molecular Biology**

<https://www.asbmb.org/advocacy>

## Policies and Procedures

### Patents & Research Materials

All Ph.D. and M.A. students should be aware that BU serves as the guardian of research conducted at BU, including research supported by all government agencies and most private foundations. This has several implications.

- Patents that arise from research conducted at BU are the property of BU, as outlined in the Faculty Handbook.
- Students are required to leave all original data and notebooks at BU upon completion of their studies. With the agreement of their primary research advisor, students may take photo or electronic copies of their original research data and notes.

Both Ph.D. and M.A. students performing research must fill out a patent policy form available from the Graduate Program Specialist.

### Sexual Misconduct/Title IX Guidelines

Title IX of the Education Amendments of 1972 is a Federal Civil Rights law that prohibits sex-based discrimination in federally funded education programs and activities. Sex-based discrimination includes sexual harassment and sexual violence, such as rape, sexual assault, sexual battery, and sexual coercion. The law covers sex-based discrimination against students, faculty, and staff. The BU Policy can be found online by visiting <http://www.bu.edu/policies/sexual-misconduct-title-ix-hr/>

Persons seeking to file a complaint should contact:

- Carian Diaz, Deputy Title IX Coordinator for the College of Arts & Sciences (CAS) | [diazc@bu.edu](mailto:diazc@bu.edu) | 617-353-6759
- Jessica Nagle, University Title IX Coordinator | [nagle@bu.edu](mailto:nagle@bu.edu) | 617-353-0911
- Dean of Students Office | 617-353-4126
- Title IX Coordinator Kim Randall | [krandall@bu.edu](mailto:krandall@bu.edu) | 617-353-9286
- Boston University Police Department | 617-353-2121

The MCBB Program expects the learning and work environment to be free of sexual harassment, including unprofessional conduct in faculty-student relationships and sexism in the classroom. Sexual harassment is an abuse of authority. Such behavior is deemed unacceptable, and serves as a barrier to the educational, scholarly, and research goals of the University.

- “Affiliates” as defined by BU include faculty, graduate and professional students, postdoctoral fellows and associates, teaching assistants, graders and University staff and volunteers who supervise students. Affiliates should not instruct, evaluate, supervise (directly or indirectly) a student’s academic work or participation in University programs, housing, activities, or employment for any student with whom the affiliate has had a romantic or sexual relationship in the past or is entering into a romantic or sexual relationship with any student over whom the affiliate reasonably expects to exercise supervisory authority in the future.
- All affiliates who are not students (enrolled in any education training programs of the University) should avoid entering into romantic or sexual relationships with undergraduate students, regardless of whether they exercise supervision over a particular student.
- Research supervisors should avoid dating members of their laboratory (i.e., graduate students,

technicians, or postdoctoral fellows). If such a relationship exists, the member of the lab should consider and/or be advised to change labs. If the student remains in the lab, the research supervisor must excuse themselves as an official member of all evaluating committees (e.g., Qualifying and Defense committees) for the student, and can only serve as an ad hoc non-voting member of any such committees. Remember that although both parties may initially consent to this relationship, it is only the professor, by virtue of their special responsibility, who is held accountable for unprofessional behavior.

- A professor dating a graduate student from another laboratory must excuse themselves from all evaluating committees (e.g., qualifying and defense committees) for the student.
- Do not touch a student, technician, or postdoctoral fellow except with the universally accepted handshake. Hugs, kisses, high-fives, or slaps on different regions of the body may be acceptable in American culture, but may be interpreted in unintended ways by students of other cultures.
- When meeting alone with a student, keep your door open if possible.
- Do not invite a student to your home when you and the student would be alone. Try to include more than one member of the class or lab in all social occasions.
- Inappropriate sexual comments and humor and jokes about sex or gender-specific traits in classrooms, laboratory sessions, or discussion sessions are not acceptable. Inappropriate messages may be subtle and even unintentional, but nevertheless these comments may compromise the learning experience of the students.
- When hanging material on doors or walls, be sensitive to other people's feelings.

BU recognizes that sexual assault, harassment, discrimination and other forms of sexual misconduct can have a profound impact on a person's personal, academic, and work life. The University encourages anyone coping with such a situation to seek help and support. Students who are uncertain of their options or simply need help should call the Sexual Assault Response & Prevention Center ("SARP") at (617) 353-7277.

Any BU employee, including student employees whose duties include supervision or teaching of other students (e.g., Teaching Assistants, Teaching Fellows, etc.), who receives a complaint or otherwise learns about a possible incident of sexual misconduct involving a member of the BU community as complainant or alleged perpetrator is required to complete a Sexual Misconduct Report Form with the University's Title IX Coordinator.

## **Childbirth and Adoption Accommodation for Full-Time Ph.D. Students**

*Please find official University policy here:*

<http://www.bu.edu/academics/policies/childbirth-and-adoption-accommodation/>

The childbirth and adoption accommodation policy for full-time or certified full-time Ph.D. students in good academic standing provides for extensions for academic coursework and other requirements to the primary caregiver of an infant or adopted child. It also provides for a continuation of stipend support for funded students during the accommodation period.

A GRS full-time or certified full-time PhD student taking an accommodation due to the birth of a child should notify the relevant department Chair or Program Director in writing no later than 30 days prior to the start of the semester during which the birth is expected using the procedures described below. In the case of adoption, notification should be made once the student becomes reasonably certain of the expected dates of adoption.

## Notification Procedures

Students are given two options for notifying the relevant offices.

### 1. By email:

Please include the following information in an email with the subject: "GRS Childbirth and Adoption Accommodation" to your department Chair or Program Director, copying your Director of Graduate Studies, the GRS Director of Admissions & Financial Aid at [grsaid@bu.edu](mailto:grsaid@bu.edu), and if a research assistant, the Principal Investigator of the research project on which you are working:

- Your name
- BU ID number
- Program
- Expected date of birth or adoption
- The start and end dates of the 60-day accommodation period if known, or approximate dates if not

The Chair or Program Director must acknowledge receipt of this email via a reply to all parties initially included.

If you are expecting to be a Teaching Fellow during the semester in which you take the accommodation, this must be discussed with both your department/program and GRS Financial Aid; if you are expecting to be a Research Assistant, the details surrounding the accommodation must be determined at the department/program level.

### 2. By form:

Please complete a notification form from the GRS website, obtain the necessary signatures, and submit to the GRS office – 112 College of Arts & Sciences Building.

## Emergencies & First Aid

Visit <http://www.bu.edu/ehs/comm/> for more detailed information regarding emergencies. In case of emergencies in building services for BRB, BSC, or SCI (heat, electricity, water, refrigeration, air-conditioning, etc.), call Tom Symancyk, Materials/Facilities Administrator, at 3-2467. For LSE, please contact the building supervisor, Dennis Batista, at 8-4282. For Biomedical Engineering labs please contact Phil Allen at 8-3814. For Chemistry labs, please contact Paul Ferrari at 8-2851. For Health Sciences labs, please contact Lisa Tornatore at 3-2705. The Building & Grounds off-hour emergency number is 3-2105. For CILSE Labs, please contact Kevin Gonzales 8-1938. In case of emergencies posing threat to health or safety (chemical spills, etc.), contact the Director of Life Safety, at 3-9734. For immediate assistance or to report an accident, fire, or medical emergency dial 3-2121 (Campus Police). A police officer will be sent to evaluate the situation and to determine what action should be taken. Later you should contact the Graduate Program Specialist to file the required Accident Report Form.

## BU Alert

BU Alert is an emergency notification system that will help ensure rapid and reliable mass communication to students, faculty, and staff. The BU Alert system is designed to communicate with cell phones (text and voice messages), landlines, e-mail systems, and pagers during a crisis or time-sensitive situation on the BU Charles River and Medical campuses. Students are required to provide an emergency number as part of their registration and can update their contact preferences on the Student Link. Questions concerning enrollment in the BU Alert program may be addressed to the Admissions Office (617-353-2300).

## **Building Hours and Security**

Main doors to 2 & 5 Cummington and the Metcalf Science Center (590 Commonwealth Ave.) are unlocked from 7:30 AM to 7:00 PM (or 9 PM when classes are in session) Monday through Friday. The main doors of the Life Science & Engineering Building at 24 Cummington are open from 7:30 AM until 7:00 PM (or 9 PM when classes are in session). Off hours require BU ID access/clearance. The 2nd through 6th floors are locked 24 hours a day, seven days a week, BU ID access/clearance is needed for these floors.

For access to Biomedical Engineering at 64 Cummington Mall off-hours, please see the Biomedical Engineering Graduate Program Administrator at 617-353-7609.

The Kilachand Center is open Monday through Friday 8am to 6pm. For access, please fill out this form and direct questions to [kilachandcenter@bu.edu](mailto:kilachandcenter@bu.edu): <https://www.bu.edu/kilachandcenter/internal-resources/access-request/>

Admittance to these buildings, when appropriate for their research and teaching, is possible 24 hours a day (including weekends) for MCBB graduate students. See the MCBB Graduate Program Specialist for information.

It is important to remember that BU is located in a large urban area. Thefts do occur. Please make certain that doors are kept locked and valuables are secured.

## **MCBB Administrative Support Policies**

### **Computers**

Many students choose to bring their own personal computers into their office or lab. A lock for a laptop is highly recommended. BU's Information Services & Technology (IS&T) designed and maintains a number of computer labs, both physical and virtual, including the University's primary PC lab in the BU Common @ Mugar and the Linux Virtual Lab. Links for computing resources on campus, as well as information on where to obtain support for your personal computer can be found at [www.bu.edu/tech](http://www.bu.edu/tech). The College of Arts & Sciences offers a file server ([casfsb.bu.edu](http://casfsb.bu.edu)) to all faculty, staff, and students to back up and share their data. To establish a folder on this server, go to <http://www.bu.edu/casit/> click on "File Services" and follow the instructions.

### **Internet**

There are limited Ethernet connections within the department for Internet access. Check with your advisor for more information about ethernet port availability in your office. Wireless on campus is available in most academic buildings, but signal strength can vary floor to floor and building to building. To join the BU wireless network, you will need to accept the certificate for the secured and encrypted 802.1x security protocol with your user login and Kerberos password. For more information on how to join the wireless network, go to <http://www.bu.edu/tech/accounts/wireless/> or stop by one of the IT Help Center at 179 Amory Street, Brookline (3-4357)

### **Getting a BU Email Account**

All new students will be given a BU Google Apps account and can log in to it at [www.bu.edu/google](http://www.bu.edu/google) or [www.bu.edu/webmail](http://www.bu.edu/webmail). You can enable this account by following the instructions on [www.bu.edu/tech/support/google/enable/](http://www.bu.edu/tech/support/google/enable/) Please note that all departmental communication will be sent to your BU email address.

## Getting on MCBB Email Aliases

Once you have a BU email account, you will automatically be added to the graduate student alias ("mccb-grad-list@bu.edu") for the MCBB Program. Please read emails sent to this alias, as they have information pertaining specifically to the MCBB program and often action must be taken on the part of the student.

## Memos and Announcements

Memos and announcements are routinely sent to graduate students via email. Also check the electronic screen outside of BRB 101 for announcements.

## Keys

First-year MCBB graduate students are given desks in a common office. Keys to this room are distributed by the Graduate Program Specialist. For second-year students and beyond, see your major professor for gaining access to the laboratory and related spaces. The keys for all departments participating in MCBB can be obtained from the respective departmental administrators. When you leave the University, you must turn in your keys.

## Mail

MCBB graduate student mailboxes are located in the department in which their Major professor resides. Biology Department mailboxes are in the corridor outside BRB 101. They are set up alphabetically, and students will receive mail in their advisor's mailbox. Chemistry Department graduate students have individual mailboxes at the Chemistry Office (SCI 299). Physics Department mailboxes are in the Departmental Office (SCI 201). Biomedical Engineering Department mailboxes are in room 407, 44 Cummington Mall. Health Sciences Department graduate student mailboxes are in the Departmental Office, Room 433.

The federal and interdepartmental mail is picked up from the respective mailrooms once a day by the BU Mail Services in most departments. The BU Mail Service sorts this mail into interdepartmental and U.S. Mail, so please use manila envelopes for interdepartmental mail and clearly mark as such. There are usually interdepartmental ink stamps in the mailroom for this purpose. If you must use a white envelope for interdepartmental mail it should be clearly marked or it will be sorted into the U.S. Mail and charged back to the Departments. It will also take a long time for this mail to arrive at its destination as it will be sent outside the University and then returned to go once again through the BU Mail Service. The mail service is only for Department and University business, and is not for personal mail. All mail must have a return address.

## Telephones

There is a telephone in the MCBB first-year graduate student office. After the first year, students have offices or desks within the faculty advisor's laboratory. You are expected to use that telephone (or your personal cell phone) unless your advisor has made other arrangements. You will need to check with your advisor as to their policy regarding use of laboratory phones. To make on-campus calls, first dial a 3 or 8 for offices, or a 2 for residences, followed by the last four digits of the phone number. To get an outside line for an off-campus call you should dial '1' followed by the number (with area code) that you wish to reach. For toll-free 800-numbers, dial '1-800' and the number. For international calls you must use a telephone code and must make arrangements with your advisor about using their telephone code to make these calls.



## Photocopying

For environmental and cost purposes, you are requested to keep photocopying to a minimum. However, there are photocopying machines within the various Departments available for general use. In general, you should use the copiers in the department in which your faculty advisor is affiliated. In 5 Cummington Mall, BRB 101C, there is a large Canon copier.

Please keep in mind:

- To avoid conflict with routine office staff, large copying jobs should not be carried out between 9 AM and 5 PM, Monday through Friday
- Faculty and staff have priority at the copying machines
- If you have questions about how to use the machines please see Front Desk Staff in BRB 101

There is an ImageRunner 3500 copier located in Room 601 of the Life Sciences & Engineering Building at 24 Cummington Mall. For copying through the Chemistry Department the copier facilities are available in the Chemistry office (SCI 299). Students receive a copier access code from their research advisor. For use of machines in Biomedical Engineering, please see the Academic Programs Coordinator for Biomedical Engineering (in the BME office or at 3-7609).

## Reimbursements & Travel

### Reimbursements

All purchases (supply, computer equipment & Amazon) must be approved by your direct supervisor before purchasing. All purchases for course and research should be submitted to Tom Symancyk [symancyk@bu.edu](mailto:symancyk@bu.edu) for processing. All out of pocket purchases must be approved by Mary Dangora, Business Manager [mmb@bu.edu](mailto:mmb@bu.edu) before purchasing.

**\*\*Amazon purchases must be made through the University's ARIBA system. Amazon purchases will not be reimbursed when items are paid for out of pocket.**

### Travel and Airfare

Please speak to your supervisor about your travel plans before making reservations. The university has strict policies and procedures regarding travel, purchasing airline tickets, and renting vehicles. Please review the BU Travel policy website at [www.bu.edu/travel](http://www.bu.edu/travel) before traveling.

### Travel Advances

The University does not allow travel advances except on a limited exception basis. University travel cards are to be requested via the Department Business Manager. These cards are usually for full time faculty and staff only. Students should ask their PI for more information regarding travel.

### Travel Reimbursement

All travel reimbursements should be submitted within 10 days after the trip is completed via this form (<https://www.bu.edu/biology/biology-reimbursement-request-form/>). Any questions should be directed to the Senior Financial Analyst.

**\*\*The use of a personal car can only be reimbursed for the mileage at the University mileage reimbursement rate. Receipts for gasoline purchase are accepted for car rentals or a University vehicle, but not for personal car use**

## Student Life Resources

### Graduate Student Groups

**Biology Graduate Student Association (BGSA):** An organization comprised of graduate students within the Department of Biology and MCBB programs dedicated to increasing the level of academic, scientific, and professional integration among the graduate students through academic and recreational activities. In addition to MCBB, these four program areas in Biology are: Cell & Molecular Biology (CM), Ecology, Behavior & Evolution (EBE), Marine Biology (BUMP), Neurobiology (NEURO). [bgsa@bu.edu](mailto:bgsa@bu.edu)

**Graduate Student Organization (GSO):** The GSO is the official representative body of the graduate students in the Arts & Sciences at BU. The GSO also offers travel awards to graduate students within programs whose students participate by attending GSO meetings during the course of the year. <http://www.bu.edu/gso/>

**Graduate Women in Science & Engineering (GWISE):** A community to support and promote women in science, technology, engineering, and math fields. Through professional development seminars and workshops, social events, mentoring, and outreach, GWISE fosters interaction across disciplines at BU and connects graduate students to postdocs, faculty, and broader networks in Boston and beyond. GWISE is open to men and women. Groups within GWISE consist of accountability groups for thesis/dissertation writing, book club, coffee groups, intramural sports, mothers' group, yoga and WISE guys, a program to increase the participation and engagement of men in GWISE. <http://www.bu.edu/gwise/>

**Minority and International Scientists Organization (MISO):** The mission of the Minority and International Scientists Organization is to provide a supportive and enriched environment to the diverse population of BU scientists via various social and academic events.

**oSTEM:** Queer and LGBTQIAPP+ folks are an underrepresented population in Science, Technology, Engineering, and Mathematics. oSTEM is a national student society, dedicated to increasing the participation of queer people in disciplines related to these STEM fields and lines of work. We aim to provide social, networking, educational, and career-building opportunities for queer students, staff, faculty, and allies in the sciences.

**Underrepresented Graduate Student Organization (UGSO):** The UGSO is the only university-wide group for underrepresented minority students, and is open to all students who identify as underrepresented in higher education

**Find more information about Graduate Student Groups at <https://www.bu.edu/grad/>**

### Office of the University Ombuds

This office is located at 19 Deerfield Street, Suite 203 | (617) 358-5960 | [ombuds@bu.edu](mailto:ombuds@bu.edu)  
The Boston University Office of the Ombuds is an independent, impartial, informal, and confidential resource available to all members of the BUcommunity. Confidentiality, one of the fundamental principles of the office, is essential to Ombuds practice. The Office provides a safe place to have off-the-record conversations about any kind of problem related to life at BU. Talking to the Ombuds can be a good first step to resolving problems, especially if you are concerned about confidentiality or don't know where to turn for assistance.



## International Students and Scholars Office

[www.bu.edu/isso/](http://www.bu.edu/isso/) | 888 Commonwealth Avenue | 617-353-3565 | [isso@bu.edu](mailto:isso@bu.edu)

The International Students and Scholars Office (ISSO) is a resource for professional expertise on immigration and employment, and help ensure student, scholar, and institutional compliance with federal regulations. ISSO staff are available to guide students and scholars through the often complicated requirements for foreign nationals studying and working in the United States.

## Office of Family Resources

[www.bu.edu/family](http://www.bu.edu/family) | 985 Commonwealth Avenue | 617-353-5954 | [chippie@bu.edu](mailto:chippie@bu.edu)

The Office of Family Resources is committed to helping families manage the challenges of work life and family life and provides many resources and services to support families of the Boston University community.

Resources and services available include:

- Referral service and resource materials for parents seeking childcare
- Information about how to find BU students interested in babysitting
- Educational programs co-sponsored with the Faculty/Staff Assistance Office
- School vacation programs for children in kindergarten through fourth grade during the February and April school vacation weeks
- Recreational summer camp program for children entering kindergarten through fourth grade during summer school vacation weeks
- Elder care resource materials

## Fitness & Recreation Center | Physical Education, Recreation & Dance

915 Commonwealth Avenue | 617-353-2748 | [fitrec@bu.edu](mailto:fitrec@bu.edu)

All full-time graduate students receive free membership to the FitRec. The Fitness & Recreation Center offers a variety of state-of-the-art facilities, including an 18,000-square-foot weight and cardio room, two swimming pools, racquetball and squash courts, two multi-use gymnasiums, an elevated jogging track, a climbing wall, a Pro Shop, and the Healthy Blends Café. Physical Education, Recreation & Dance offers for-credit and non-credit classes in everything from fitness to climbing to martial arts. Intramural and club sports programs also exist in some MCBB-affiliated departments.

## Educational Resource Center

100 Bay State Road, 6th Floor | 617-353-7077 | <http://blogs.bu.edu/erc/>

The Educational Resource Center provides academic support programs to the University community, including peer tutoring, the Writing Center, Language Link conversation groups, and various workshops. These services are available free of charge.

## BU Parking and Transportation Services

1019 Commonwealth Avenue | 617-353-2160 | <http://www.bu.edu/parking/>

The BU Parking & Transportation office provides students, staff, and faculty information on various ways to travel in and around Boston. This office provides information on the following: Parking permits, parking lots and locations, parking regulations and towing, weather related emergencies, the BU Bus, rideshare, bike safety and registration, Zipcar, and MBTA (the "T") passes and transportation.

## BU BUS

The Boston University Shuttle (the BUS) is an inter-campus shuttle service with 11 stops between the Charles River Campus and the BU Medical Campus. BU ID may be required to board. During the academic year, the BUS operates every 15 minutes (7AM – 10AM & 4PM – 7PM) Mondays – Thursdays, and every 20 minutes on Fridays. The BUS provides 30-minute off-peak service from 7AM until 11PM. During the summer, the BUS runs every 30 minutes between 7AM and 11PM. More information about the BUS service is available online. Evening & Weekend Shuttle provides service 7 days a week during the evening and early morning hours. The shuttle, which runs until 2:00AM Sunday-Wednesday and 4:00AM Thursday-Saturday, is intended to provide the BU community with convenient transportation exclusively throughout the Charles River Campus.

## The Center for Gender, Sexuality and Activism

775 Commonwealth Avenue, Lower Level | 617-358-5575 | [cgsa@bu.edu](mailto:cgsa@bu.edu)

The Center for Gender, Sexuality and Activism (CGSA) strives to be a safe space for people of all genders and sexualities. Using a social justice framework, the CGSA aims to end gender oppression and violence, and advocates for the equality and inclusion of women, queer and trans students. This dynamic community fosters challenging and open discourse, promotes student activism, and provides resources and education for the BU Community.

## Chaplain

735 Commonwealth Avenue | 617-353-3560 | [chapel@bu.edu](mailto:chapel@bu.edu)

A variety of chaplains are available to all students, regardless of religious affiliation. Appointments can be scheduled, or students can visit the chapel office on weekdays between 9 AM and 10 PM.

## The University Service Center (USC)

881 Commonwealth Avenue | 617-358-1818 | [usc@bu.edu](mailto:usc@bu.edu)

The USC is an excellent starting point for anyone unsure of where to turn for help. The staff will point you in the right direction, or—if your concern is complex, multilayered, or involves multiple offices—help you figure out the best way to address the situation.

## Disability Services

19 Deerfield Street, 2nd Floor | 617-353-3658 | [access@bu.edu](mailto:access@bu.edu)

Disability Services provides services and support to ensure that students with disabilities are able to access and participate in the opportunities available at BU. Disability Services also employs students as note-takers, readers, and in other positions assisting disabled students.

## The Howard Thurman Center

808 Commonwealth Avenue, Lower Level | 617-353-4745 | [thurman@bu.edu](mailto:thurman@bu.edu)

The Howard Thurman Center is BU's center for cultural learning and collaboration. Through a variety of workshops, programs, and celebrations, the Howard Thurman Center aims to build community by eliminating barriers of divisiveness that separate individuals, groups, races, cultures, religions, and ethnicities.

## **The Newbury Center**

755 Commonwealth Avenue, Suite B18 | 617-353-3400 | [newburycenter@bu.edu](mailto:newburycenter@bu.edu)

The Newbury Center is Boston University's center for first-generation students with the goal of fostering the holistic success of first-generation students at Boston University. The Center supports students navigating the financial aid system, connects students to on-campus resources, and fosters a sense of belonging through mentorship programs.

## **Judicial Affairs**

19 Deerfield Street, 3rd Floor | 617-358-0700 | [dos@bu.edu](mailto:dos@bu.edu)

The Judicial Affairs office and student safety programs serve as the primary administrators of the Code of Student Responsibilities and also provide information and resources to the University community regarding personal safety on and off campus.

## **Boston University Police Department**

32 Harry Agganis Way | 617-353-2121

Anonymous Tip Line: Text the BUPD at tip411 (847411) and type BU <space> your message

The BU Police Department is a full-time, professional law enforcement agency that also provides a wide variety of public services, including emergency medical response, Rape Aggression Defense classes, and laptop and bicycle registration. Through the community policing program, officers are assigned to various areas of campus to work closely with the community in addressing crime and crime prevention, as well as social issues, which directly affect the quality of life at BU.

## **Environmental Health & Safety**

704 Commonwealth Avenue, 2nd Floor | 617-353-4094 | [oehs@bu.edu](mailto:oehs@bu.edu)

Environmental Health & Safety provides a full range of environmental, health, and safety services to the University community. These services include, but are not limited to, fire and life safety programs and support of the University's recycling program.

## **Dean of Students**

775 Commonwealth Avenue, 3rd Floor | 617-353-4126 | [dos@bu.edu](mailto:dos@bu.edu)

The mission of the Dean of Students office and the Division of Student Affairs is to enhance the quality, character, and perspectives of our students. Through its many orientation, mentoring, and counseling programs, the division promotes an environment that encourages intellectual exchange and individual expression. The Dean of Students has an open-door policy and is available to all students by appointment.