

Handbook

Master's Graduate Program in Biochemistry and Biophysics

Brandeis University
August 2022

The purpose of this handbook is to help students navigate the various requirements and expectations of the Master's Graduate Program in Biochemistry and Biophysics. It describes the requirements for the M.S. degree and contains general information about the procedures to be followed in satisfying these requirements.

The Biochemistry & Biophysics Graduate Program is an interdepartmental graduate program with faculty drawn from the Biochemistry, Biology, Chemistry, and Physics departments. Progress of students in the program is monitored mainly by faculty of the Biochemistry Department and the Biochemistry & Biophysics Graduate Program Chair. An up-to-date list of faculty associated with this program is posted on the [Biochemistry & Biophysics Graduate program webpage](#).

****Important Note Regarding COVID-19:** Due to the uncertain direction of COVID-19, please note that the contents in this handbook may be subject to change. If there are any changes, we will notify you as soon as possible by email. Please make sure you check your Brandeis email regularly, at least once a day.

For COVID-19 updates, please consult their website: [COVID-19 Response: What's Now, What's Next | Brandeis University](#). If you are displaying COVID symptoms, please do NOT come to campus, but instead stay home and call the Health Center. Health Center Contact Information: brandeishealthcenter@brandeis.edu or 781-736-3677 (during regular hours) or 781-239-1948 (after-hours urgent consultation).

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Degree requirements -- General Information

The M.S. program in Biochemistry and Biophysics is a two-year program designed to accommodate students with previous academic majors in a wide range of fields, including biology, biochemistry, physical chemistry, engineering, and physics.

To obtain the Master's degree, students must satisfy both the general requirements of the graduate school and the specific requirements of the Biochemistry & Biophysics Graduate Program. Both sets of requirements are summarized in the [Brandeis Bulletin](#).

All Biochemistry and Biophysics Master's students must complete and pass four graduate level courses with a grade of B- or better. Students will rotate through two Brandeis University labs in their first semester, after which point they will join a lab in which to carry out research towards a Master's Thesis. In addition, students must attend the Division of Science Responsible Conduct of Scientific Research (RCR) Mini-course (**October 17, 2022**).

The student is responsible for fulfilling each requirement before the relevant deadline. At the discretion of the faculty, students failing to complete requirements on time may be required to leave the Program.

Students in the Biochemistry & Biophysics Graduate Program are expected to work full-time towards the degree throughout the entire calendar year. Students should be aware that scientific research is a demanding occupation and that researchers often find it necessary to do work on nights, weekends, and holidays in addition to that during "normal working hours." This precludes students undertaking outside employment or outside academic activities that would require a significant amount of time.

Requirements for the M.S. degree

1. Courses

The required program of study consists of four one-semester courses (BCHM 101a, BCHM 103b, BCHM 104b, and one elective advanced-level course from the Division of Science, approved in advance by the graduate program chair), passed with a grade of B- or higher. All students are required to take BCHM 101a in the first semester, and BCHM 103b and BCHM 104b in the second semester. To fulfill the course requirement for the Master's degree, the student must complete each course with a letter grade of B- or higher. To make any subsequent modifications to the Required Program of Study, the student must obtain, in advance, written approval from the Program Chair.

Starting in their second semester, students will join a research lab full-time and enroll in BCBP297, Master's Lab Research, with their research advisor for the three remaining semesters and the intervening summer term. To earn the M.S. degree, students must also enroll in BCBP299 in their fourth semester and write and submit a master's thesis deemed satisfactory by a committee of faculty appointed by the Program Chair. In addition, students must attend the Division of Science Responsible Conduct of Scientific Research (RCR) Mini-course, which does not count towards the four courses required.

The following is a typical program of study:

Year 1, Fall Semester

BCHM 101a Advanced Biochemistry: Enzyme Mechanism
BCBP 296a Masters Lab Rotation

Year 1, Spring Semester

BCHM103b Advanced Biochemistry: Cellular Information Transfer Mechanisms
BCHM 104b Physical Chemistry of Macromolecules
BCBP 297b Masters Lab Research II

Summer, between years

BCBP 297a Masters Lab Research I

Year 2, Fall Semester

Elective (if taking this semester)
BCBP 297a Masters Lab Research I

Year 2, Spring Semester

Elective (if taking this semester)
BCBP 297b Masters Lab Research II
BCBP 299a Master's Thesis

In addition to passing the formal course requirements, all students should endeavor to keep abreast of current developments in Biochemistry & Biophysics and related fields. To accomplish this, students are urged to attend the following seminars weekly during the academic year:

- 1) The Biochemistry & Biophysics Friday Pizza Talks – **attendance is highly encouraged**
- 2) The research talks sponsored by the students from the MSM//BCBP programs - **attendance is mandatory**
- 3) One or more departmental colloquia or specialty journal clubs according to the student's interest

2. Rotations and acceptance by thesis advisor

During the first semester, students are required to register for the Master's lab rotations (BCBP 296a). Every student is required to complete two rotations of 8-10 weeks each in two different laboratories during the first semester. The choice of laboratory rotations is made jointly by the student, the chair of the graduate program, and the faculty member in whose lab the rotation is to take place. Students may choose advisors from any department within the Division of Science. The complete list of faculty research interests can be found here on the BCBP Grad Program website: [Graduate Training Faculty | Graduate Program in Biochemistry & Biophysics | Department of Biochemistry | Brandeis University.](#)

During orientation week, students have the option of attending a three-night faculty bazaar where faculty members will introduce their work. After, students will approach faculty of interest and discuss the possibility of rotating in their lab. Advisors can be chosen from any department within the Division of Science. The complete list of faculty research interests can be found here on the BCBP Grad Program website: [Graduate Training Faculty | Graduate Program in Biochemistry & Biophysics | Department of Biochemistry | Brandeis University.](#)

It is the responsibility of students to contact faculty members and find their rotations labs. The first lab rotation will begin on **September 6th, 2022**. The choice of laboratory rotations is made jointly by the student, the chair of the graduate program, and the faculty member in whose lab the rotation is to take place

To complete a rotation, the student must turn in a satisfactory written report. Written reports are due the morning of the day that the next rotation period begins.

Rotation Schedule:

Start End/Presentation Report Due

Rotation 1: 9/6/22- 10/28/22

Rotation 2: 10/31/22- 1/6/23

After the first semester, research for the Master's Thesis is carried out under the supervision of a faculty advisor. Students must choose a research laboratory immediately upon completion of the second laboratory rotation. Starting in their second semester, students will join a research lab full-time and enroll in BCBP 297, Master's Lab Research, with their research advisor for the

three remaining semesters and the intervening summer term.

3. Thesis

To qualify for the M.S., a student must submit a thesis reporting a substantial piece of original research carried out under the supervision of a research advisor or advisors. During the final semester in the program (typically the fourth semester), the student will register for BCHM 299a (Master's Thesis) and BCHM 297 (Master's Lab Research) while finishing research work and writing the MS thesis.

The thesis must be approved by the Thesis Advisor and a committee of two additional faculty, assigned by the program chair. All students must give a 15 minute oral presentation of their thesis topic, presented on the same date as that spring's senior honors talks. A written copy of your thesis will be due to your examining committee no later than one week in advance of the talks.

Once accepted by the faculty readers, the student must submit the [Certification of Master's Thesis Acceptance](#) to the graduate school and publish the thesis through ProQuest by the posted deadlines. A copy of this form and of your final thesis should be given to the Graduate Affairs Office. Deadlines and guidelines for submission and acceptance of the Master's thesis are set by the graduate school and the registrar each semester. Please see the graduate school's [Master's Thesis Guide](#) for more information on submitting and publishing the thesis.

Students have not fulfilled the program and thesis requirements until the final version of the thesis, including any changes required by the advisor and the Graduate School, is submitted to the Graduate School office through ProQuest. For theses that include copyrighted material (for example, text already published in journal articles), copyright permission must be obtained from each journal and submitted to the Graduate School office with the dissertation. There is usually no need to get permission from co-authors, since it is usually the journal, not the authors, which owns the copyright.

4. Residence

The residence requirement is two years.

Progress

Students' progress will be reviewed by the chair of the program at the end of each semester, particularly after the end of their first year. Students may be asked to leave the program at the end of a semester if their progress is found to be unsatisfactory, at the discretion of the graduate committee. Satisfactory progress includes receiving grades of B- or higher in all courses, successfully joining a lab after the student's first semester, and demonstrating adequate research progress thereafter as determined by the graduate committee.

Information for first-year students

Prior to arriving on campus, first year students will be emailed information about orientation activities, registration, and class schedules. Upon arrival on campus, first-year students should stop by the Biochemistry Department. **It is mandatory that you attend the Orientation Meeting scheduled for your program.** After arriving on campus, first-year students should stop by the Biochemistry Department Office/Division of Science Graduate Affairs Office (Ros/Kos 3-RK02) to check your mailbox (located in the hallway outside the Biochemistry office). Please bring your student ID, so that Jenn Roy can give you the appropriate card access. You will be required to **take online safety training** before being granted building access.

Transition from M.S. to Ph.D. Program:

Students who have earned an M.S. at another institution will be admitted as normal first-year students. Students in the Brandeis Biochemistry & Biophysics M.S. program who apply to and are accepted into our Biochemistry & Biophysics Ph.D. program may be transitioned into the program and considered as third year Ph.D. students. Master's students who plan to apply to our Ph.D. program should first talk to their Master's advisor in July after their first year. The Ph.D. program graduate chair will then meet with these applicants before the beginning of the semester of their second year to communicate their potential for our Ph.D. program. An admissions decision will be made as early as possible to expedite the transition to the Ph.D. These students must complete the same requirements as students who enter directly as Ph.D. students, with the following alterations to their timeline:

Matriculation date:

M.S. students will enter the Ph.D. program during the summer after their M.S. year and matriculate as Ph.D. students that summer, typically with a start date of June or July 1st. The start of stipend payments will coincide with their matriculation date. Any exceptions to this timeline must be discussed with and approved by the graduate committee.

Courses:

Courses taken during the M.S. year may count towards the Ph.D. course requirement, if the program chair approves the courses. M.S. Students who are strong candidates for the Ph.D. program are encouraged to take BCHM102 in the fall of their second year at Brandeis, and with permission of the graduate chair and instructor, may take BCBP200 in the spring of their second year. These students are expected to complete the remaining classes as soon as possible after transitioning to the Ph.D. program.

Rotations and Selection of Dissertation Lab:

In most cases, M.S. students who transition to the Ph.D. program are expected to continue their research in the same lab in which their Master's Thesis was completed. Exceptions to this will be considered on a case-by-case basis. Should a lab change occur, the possibility of additional lab rotations before changing labs will be discussed on a case-by-case basis.

Teaching Obligations:

M.S. students who transition to the Ph.D. program will not be required to serve as teaching assistants.

Master's Thesis:

M.S. students will defend their master's thesis according to the requirements of the M.S. program handbook.

Outside and Inside Examinations:

For a master's student who transitions into our Ph.D. program, the inside and outside propositions are required during their first year in the Ph.D. program (their 3rd year at Brandeis). Students follow the same timeline and guidelines for these propositions that 2nd year Ph.D. students follow.

Resources for graduate students and ways to get help

If at any point during your graduate career, if you have questions/concerns or are hitting challenges, there are many people here on campus that are here to help and support you. Before we go into specifics of who to go to for help, please know that the majority of people on campus are "responsible reporters." This means that they are obligated to share any information that has been disclosed to them regarding discrimination, harassment, or sexual misconduct with the Office of Equal Opportunity. If you are hoping to have a confidential conversation about one of these topics, you will find a list of confidential resources later in this section.

Most issues can be best handled by those closely associated with your graduate program or with Division of Science staff and faculty, so we encourage you to seek out assistance from within this group first. We recognize that sometimes there may be a particular person that you are more comfortable speaking with or that one faculty member may be holding multiple roles/positions, but we suggest that you reach out to for assistance in the following general order (see schematic at the bottom as well):

- **Your PI/Advisor:** Your first stop should be your PI/advisor, if you have chosen one by this point. Your advisor will have the most intimate knowledge of your research/program progress and career goals, and is here to help train and guide you. PIs usually have regular meetings with their students, and you are encouraged to use this time to talk about anything that's on your mind—not just your latest research results. If you are still rotating, you should feel comfortable talking to your rotation PI.
- **DGS (Director of Graduate Study, or Chair of your Grad Program):** This faculty member oversees your grad program as a whole and is here to support all students in the program. The DGS will be extremely knowledgeable in the program's requirements and is also tuned in to the current GSAS and University policies. If you are early on in your grad program and have not yet chosen an advisor, the DGS is here to support you. After you have an advisor, the DGS may be a good place to start if a few students from different labs have shared concerns that they would like to discuss. The specific faculty member who fills this role may change from year-to-

year, so check with your program administrator or check your program website for the current DGS first. In academic year 2022-2023, your DGS is Dan Oprian - **Your program's Department Chair is Doro Kern.** This faculty member oversees the department that your grad program falls under and is a step above your DGS. If you have concerns that aren't necessarily specific to your grad program but are relevant to the department as a whole, the chair may have good insight. This may be a good person to talk to if concerns are shared with other populations in the department such as staff, postdocs, or undergraduates. The specific faculty member who fills this role may change from year-to-year, so check with your program administrator or check your program website for the current Chair. In academic year 2022-2023, your department chair is Doro Kern.

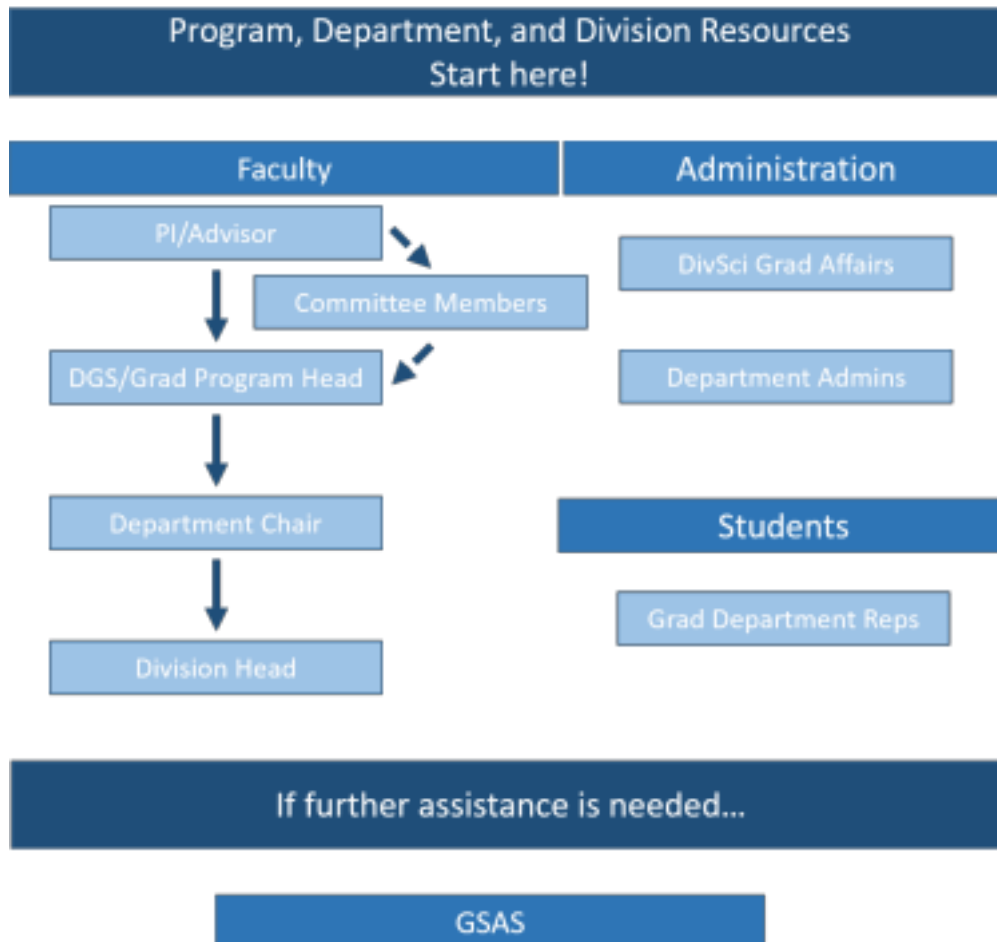
- **The Head of the Division of Science:** This faculty member oversees the entire Division of Science and works to support all of the departments and graduate programs within the sciences. This would be a good person to have a conversation with if people from different graduate programs or departments have a shared concern or issue that they would like to raise. The head of the Division of Science has frequent meetings with individual program and department chairs, as well as with leaders across the University, so they will be knowledgeable of current Division and University practices. They are here to support and advocate for the entire science community. As with the DGS, the faculty member in this role can change from time to time. In academic year 2022-2023, the chair of the Division of Science is Bulbul Chakraborty.

In parallel to these program-level and Division-level faculty resources, there are non-faculty resources within the Division who you can go to for help. The following are good places to go to for help; you should go there first with administrative questions:

- **The Division of Science Grad Affairs Office:** This office is the administrative home for most of the graduate programs within the Division of Science, including yours. The staff here work closely with grad students and with faculty to administratively oversee those graduate programs and student progress. The staff in this office know your program's faculty, are well-versed in your program's requirements and policies, and are up-to-date with the other sources of support on-campus. If you are unsure about whom to talk to first, the DivSci is often a good place to start as they can help you decide whom to approach and how to have that conversation.
- **Your Department Administration:** These staff work in your department's office and are here to help their entire department community. These staff may be a bit less familiar with your graduate program requirements, but they know your department's faculty and any non-grad-program details about your department well.
- **The DivSci Pre-Award Office:** If you are applying for grants or fellowships, please loop these staff in. They can provide guidance and help you navigate the submission process.
- **Your program's Grad Department Representatives (GDRs):** These graduate students were elected to represent the student body. One of the roles of the GDR is to

bring concerns from students as a whole to the program faculty or to GSAS, so if you have a concern that you are comfortable discussing with your GDR it's a good idea to let them know. They cannot bring these concerns to the faculty to advocate for all students if they don't know about them, and there may be other students with similar concerns. Your GDRs may hold a student "town hall" once a semester or year to bring up issues, and this is a good forum to discuss some topics that may be weighing on your mind.

Only if you have not made sufficient progress in those discussions, you could then escalate the conversation above the Division of Science by speaking with the [Graduate School of Arts and Sciences \(GSAS\)](#). GSAS oversees all graduate programs within the school of Arts & Sciences at Brandeis and is invested in the success of all graduate students in these programs. Depending on the topic that you have raised with faculty or administrative staff, they may have already contacted GSAS for advice/assistance on how to help or to handle the next steps. If you'd like to reach out to GSAS for help, we recommend that you connect with Becky Prigge, Assistant Dean of Student Affairs.



Outside of the general hierarchy of places to go to for help there are various other entities on campus here to support students. These resources on campus are dedicated to supporting graduate students:

- [Office of Graduate Affairs \(formerly known as Graduate Student Affairs\)](#): This office is a home and source of support for all graduate students at Brandeis, including those studying at the Heller School, the Rabb School, or the International Business School. Graduate Student Affairs provides students with information and events about graduate life at Brandeis and community resources. If you'd like to reach out to this group, we recommend that you contact Jessica Basile, Assistant Dean of Graduate Student Affairs or Steve Weglinski, Assistant Director of Graduate Student Affairs.
- [The Graduate Student Association \(GSA\)](#): Supported by the Office of Graduate Affairs, the GSA is an independent student body that represents all graduate students and provides a platform for graduate students to raise issues and concerns and build community. If you have a concern about an issue affecting graduate students that extends past your program, department, and the Division of Science, the GSA is a good group to talk to. To connect with them, visit their website to see the current year's grad student executive committee.

There are some offices on campus that specialize in specific topics and who will almost always be the best resource for those topics:

- [The Office of Research Administration \(ORA\)](#): ORA, which reports to the [Vice Provost for Research](#), can help with issues related to research integrity and compliance. If you want to discuss the possibility of research misconduct, you may wish to report things there directly.
- [The International Students and Scholars Office \(ISSO\)](#): ISSO supports all of Brandeis' international students and scholars. This office determines visa eligibility and prepares and issues visa documents. If you ever have any questions about your Visa or any of the associated regulations (e.g. travel, CPT, OPT), you should reach out to your ISSO advisor. They can advise students on rights and responsibilities and provide guidance regarding issues that may impact your legal status. Their website also has a collection of useful information for international students.
- [Student Accessibility Support](#): If you are a student with a disability and in need of academic or non-academic accommodations, this office can support you and help you navigate this process. The definition of a person with a disability is broad, and may students who do not think of themselves as students with disabilities may qualify for support under the law. Even if are you not sure if you will qualify, you are encouraged to reach out to SAS.

As mentioned at the start of this section, there are some topics that responsible reporters on campus cannot keep confidential, and those are issues of discrimination, harassment, or sexual misconduct. The office on campus that addresses these issues is the [Office of Equal Opportunity \(OEO\)](#). OEO provides information regarding support resources, information about taking action (internal resolution processes and criminal action), inquiries and investigations into concerns, processes to address grievances, and training for the Brandeis community. Please visit their website for contact information and steps (and an online form) to file a report. You are welcome

to contact a resource listed above for support or advice about these topics, but they will be obligated to share the issue with OEO.

If you would like to have a *confidential* conversation with someone on campus, the following are our on-campus confidential resources:

- [The Brandeis Counseling Center \(BCC\)](#): The BCC provides counseling for students in times of stress, and encourages them to ask for help with their most immediate concerns. Counseling is available to all students regardless of whether they have the Brandeis student health insurance plan or not. If you are struggling and need someone to talk to, we encourage you to reach out to the BCC.
- [The Prevention, Advocacy, and Resource Center \(PARC\)](#): PARC provides education, empowerment and support related to sexual assault, sexual harassment, dating/domestic violence and stalking. This group is a confidential, student-centered resource serving all members of the Brandeis community who have been impacted by violence.
- [The University Ombuds](#): This office is a confidential, independent, impartial, and informal resource for all members of the Brandeis community. They provide a safe space to talk confidentially and off-the-record about difficult situations and offer conflict resolution support.
- [The Chaplains in The Center for Spiritual Life](#): The Brandeis chaplains offer counseling, support, and community to students of all faiths. They oversee on-campus worship and student religious life while also offering community support in times of joy and crisis.