

## **SUMMARY OF REQUIREMENTS FOR THE PH.D. IN MOLECULAR AND CELL BIOLOGY**

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### **SUMMARY OF REQUIREMENTS FOR PH.D. CANDIDACY:**

All MCB students must complete four lab rotations (nine weeks each) and pass a qualifying exam (First Year Examination, or “Outside Exam”) at the end of the first year. In May of the first year, each student will select a thesis lab by mutual agreement with a faculty member. Over the first two years students must pass six lecture courses with a grade of B- or better (by petition a last course may be taken in the third year). Usually in the second year each student will TA two 1-semester courses. In May of the second year each student will defend a thesis research proposition (“Inside Exam”). Beginning in the third year each student will present yearly in the Graduate Student Research Seminar (Friday “Pizza Talks”). In addition, graduate students must register for and attend the following courses/seminars: Responsible Conduct of Science in the first year (CONT 300b) or the equivalent Research Ethics Workshop, the Graduate Student Research Seminar every semester (BIOL 350D), and a Journal Club every semester. Students must also register for their advisor’s section of BIOL 401D (Dissertation Research) in their second year and all subsequent years. Students in their fifth year must again participate in CONT 300b or equivalent.

### **DETAILS:**

**Courses:** There are three required/mandatory courses for all MCB Ph.D. students: BIOL 103b (Mechanisms of Cell Function), BIOL 105b (Molecular Biology) and BIOL 200a (Proseminar). The remaining three courses must have catalogue numbers of 100 or above (signifying graduate-level) and be listed or cross-listed in the Molecular and Cell Biology section of the Brandeis Bulletin (<http://www.brandeis.edu/registrar/bulletin/index.html>). These classes can be selected from a number of topic areas including molecular biology, neuroscience, genetics, cell biology, developmental biology, immunology, and structural biology. Courses not listed under the MCB program in the Brandeis Bulletin must be approved by the Graduate Committee. Transfer credits may be applied towards no more than two courses, and are decided on a case-by-case basis upon written petition to the Chair of the Graduate Committee. Students may petition to waive one of the required courses if they have had recent comparable training.

**Rotations:** All first year students are required to register for research rotations (BIOL 300a,b). Every student is required to complete **four** rotations of nine weeks each (in four *different* laboratories) during the academic year (specific dates below). In the event that a student is completing only one rotation in a given term (fall, spring, or summer), the student should register for the half-credit rotations course, BIOL 301a,b. The choice of laboratory is made jointly by the student and the faculty member in whose lab the rotation is to take place. Students may choose from any Life Sciences faculty, which includes faculty from the Departments of Biology, Biochemistry, Chemistry, Psychology, Computer Science, and Physics.

Following the three-night faculty research bazaar that takes place during orientation week, we will ask you to list your top choices for rotations. We will then assign students to a first rotation, doing our best to give everyone their first or second choice. The remaining three rotations are the responsibility of the student to arrange with the appropriate faculty member ahead of time. We recommend that you arrange rotations at least a few weeks prior to the end of the previous rotation to ensure that you can get a spot.

**Rotation Report:**

At the end of each rotation, the student will submit a written rotation report. The student should discuss expectations for the rotation report with their rotation advisor including the format, style, and length of the report, and whether an oral presentation will also be required. By 5pm on the date the report is due, one electronic copy should be sent to the program administrator in the Division of Science Graduate Affairs Office and one should be provided to the laboratory head in which the rotation was done. Any requests for extensions must be received in advance, and must be approved by the rotation advisor and program chair. The student will receive formal feedback following each rotation via email.

**Rotation Schedule:**

	<b>Start</b>	<b>End</b>	<b>Written Report Due</b>
1 <sup>st</sup>	Tues. 9/4/18	Fri. 11/2/18	Mon. 11/5/18

2 <sup>nd</sup>	Mon. 11/5/18	Fri. 1/11/19	Mon. 1/14/19
3 <sup>rd</sup>	Mon. 1/14/19	Fri. 3/15/19	Mon. 3/18/19
4 <sup>th</sup>	Mon. 3/18/19	Fri. 5/17/19	Mon. 5/20/19

### **Selection of a Thesis lab:**

Students are not permitted to approach faculty about joining a lab until Tuesday May 13<sup>th</sup>, 2019 and should make every attempt to complete the selection process by Friday May 24<sup>th</sup>, 2018. Students will begin work in their new thesis lab immediately following the end of the fourth rotation. The graduate committee reiterates that students should not ask for a commitment from a faculty member – nor can a faculty member promise a spot in their lab – **until May 13<sup>th</sup>**. This policy protects the rights of all first year students in the Life Sciences and creates a level playing field independent of the order in which rotations are performed. It is taken very seriously by the Graduate Committees of all of the Life Sciences programs.

### **Journal Clubs:**

Every MCB student is required to register for and attend the “Topics in Molecular Genetics and Development” Journal Club each semester. By petition a student may add or substitute the Topics in Neurobiology Journal Club. In their first year, the students should choose the journal club(s) attended by the labs in which they are rotating. If these Journal Clubs differ from what was registered for it is ok. Students are not required to present an article until their second year.

#### **Journal Clubs: (See course listings for times)**

Topics in Molecular Genetics and Development:	BIOL 305
Topics in Neurobiology:	NBIO 306

### **Tuesday Colloquia Series:**

All students are required to attend the regular Tuesday Joint Biology/Neuroscience Colloquia.

### **Graduate Student Research Seminars (BIOL 350):**

All students are required to register for and attend Graduate Student Research Seminars Pizza Talks (BIOL 350), which are held Fridays at 12:30pm. All MCB (and Neuro) students are required to present their thesis work annually starting in their third year.

### **Chemical and Safety Trainings:**

All students must complete the appropriate chemical and safety trainings before they may begin in the lab. More information about these requirements will be explained during New Student Orientation. All MCB students are required to complete online Animal Care and Use training. Any student undergoing animal research is also required to attend the Foster Animal Facility training and Occupational Health Clearance. If applicable, students must also complete in-person Virus Training and Controlled Substances Training.

## **TIMELINE OF EVENTS:**

### **First Year**

**Courses:** Students in their **first semester** (Fall 2018) will register for Rotations (BIOL 300a), Journal Club (BIOL 305), the Graduate Student Research Seminar Pizza Talks (BIOL 350a), and two lecture courses – BIOL 105b (Molecular Biology) and BIOL 200a (Proseminar).

Students in their **second semester** (Spring 2019) will register for Rotations (BIOL 300b), Journal Club (BIOL 305), the Graduate Student Research Seminar Pizza Talks (BIOL 350b), and BIOL 103b (Mechanisms of Cell Function). A second elective course is normally selected from the list of graduate courses (catalogue number of 100 or above) in the Molecular and Cell Biology section of the Brandeis Bulletin. In addition, the student must register for and attend the seminar in Responsible Conduct of Science (CONT 300b) or the equivalent Research Ethics Workshop usually offered in the spring term, which is a not-for-credit course.

### **Graduate Student Research Seminars (BIOL 350):**

All students are required to register for and attend Graduate Student Research Seminars Pizza Talks each Friday at 12:30 PM. Students do not present until their third year.

### **Journal Clubs:**

Every MCB student should attend the Topics in Molecular Genetics and Development Journal Club, unless approved by petition to attend the Neurobiology Journal Club instead. Students typically present in their second year.

### **Tuesday Colloquia Series:**

All students are required to attend the regular Tuesday Joint Biology/Neuroscience Colloquia.

### **First Year Examination, “Outside Exam”:**

#### **Subject:**

MCB students will write and orally defend a research proposition at the end of the first year in the program. The subject will be chosen from among the four topics covered by the student’s rotations. However, the subject can deal with aspects of the topic that are not specifically being investigated in the lab (for example, a student in the Haber or Lovett lab might propose some aspect of DNA repair in mammals; similarly, a student in the Rosbash or Griffith lab might propose experiments about circadian rhythms in mammals).

Students are permitted to talk to their rotation advisor about the concepts and background of the proposal, but the experimental design should be independently conceived by the student.

**Written proposal:**

A one-page pre-proposal with an abstract and two “Specific Aims” must be submitted to the Graduate Committee by 5 pm on Friday, **April 19<sup>th</sup>, 2019**. Following approval by the Graduate Committee, completed proposals are due two weeks later by 5pm, **Friday, May 3<sup>rd</sup>, 2019**. The written proposal will be based on the NIH R21 format (full guidelines: [https://grants.nih.gov/grants/guide/url\\_redirect.htm?id=11133](https://grants.nih.gov/grants/guide/url_redirect.htm?id=11133)). The written proposal should be no more than 6 pages of content (not including references or specific aims), with no more than 2 specific aims proposed. Students should use single spaced 11pt Arial font, 0.5inch margins, and embed figures into the text. Each written proposal will be evaluated using a standard rubric by two MCB faculty members (readers). 10 days in advance of the oral exam (**Monday, May 13<sup>th</sup>**), the readers’ evaluation will be sent to the student, who will have one week to edit the exam. 3-4 days prior to the oral exam (**Monday, May 20<sup>th</sup>**), the revised proposal will be sent to the oral examining committee, which will be comprised of a group of 5-6 faculty made up of members of the MCB graduate committee.

**Oral Defense:**

All student oral defenses will be held on **Thursday, May 23<sup>rd</sup>** and **Friday, May 24<sup>th</sup>, 2019** (students will be assigned into two groups). The oral examining committee will collectively conduct an exam of each student, allowing 45 minutes per student. The proposition should be presented in the form of a chalk talk (i.e. PowerPoint presentations will not be permitted). Requests for exceptions to this schedule must be submitted in writing to the Graduate Committee and are only granted under extraordinary circumstances.

**Evaluation Forms:**

First Year Examination evaluation forms (provided by the Graduate Affairs Office) must be completed by each member of the oral examining committee and returned to the Graduate Affairs Office once the exam has ended. If revisions to the written proposal or a re-defense are required, a second set of evaluations forms must be submitted indicating acceptance of the revision/re-defense and turned into the Graduate Affairs Office.

After the oral defense is completed, the Chair of the student’s examining committee should write and submit a brief written report of the student’s performance, which represents the consensus of the whole committee. This report should be distributed to the student, the student’s advisor, the graduate program Chair, and the Graduate Affairs Office to be included in the student’s file.

Students who fail their First Year Examination will be placed on probation (see below for more information on probation). Contact Jim Haber with further questions about the First Year Examination ([haber@brandeis.edu](mailto:haber@brandeis.edu)).

**Choice of Thesis Lab:**

Students will choose their thesis lab by mutual agreement with a faculty member at the end of the first year **between May 13<sup>th</sup> and May 24<sup>th</sup>** and are expected to begin work on their thesis projects immediately following the end of the fourth rotation. Fifth rotations may be considered, but must be discussed with and approved by the Graduate Committee.

**Summer, between all years:**

**Courses:** This and every summer, all students will be automatically registered for CONT 250b (Summer Research).

**Thesis Research:**

Students will begin work on their thesis research immediately following their fourth rotation. They are expected to perform research through the summer. Vacations and other absences must be approved by the student's advisor.

**Second Year:**

**Courses:** Generally students take one lecture course in the fall and one in the spring semester. These classes can be chosen from the list of graduate courses (catalogue number of 100 or above) in the Molecular and Cell Biology section of the Brandeis Bulletin (<http://www.brandeis.edu/registrar/bulletin/index.html>).

**Teaching:** Each student is required to serve as a teaching assistant (TA) for two semesters, typically fall and spring semesters of their second year in the program. Teaching assignments are decided in the summer preceding the second year and will be emailed to students (usually in July).

Second year Ph.D. students are expected to attend the Teaching Practicum and Title IX training for teaching fellows, which will be held each summer during New Student Orientation week in August.

**Thesis Research:**

Students will work on their thesis projects starting at the end of their first year, when they join their thesis lab, and continue until completion of their dissertation (MCB faculty are aiming for an average stay of 5.5 years overall). Students must register for their advisor's section of BIOL 401d (Dissertation Research) each semester. Specific Ph.D. thesis requirements are set by the student's advisor and the thesis committee (see below).

**Graduate Student Research Seminars (BIOL350):**

All students are required to register for and attend Graduate Student Research Seminar Pizza Talks which are held each Friday at 12:30 pm. Students do not present until their third year.

**Journal Clubs:**

Every MCB student should attend the Topics in Molecular Genetics and Development Journal Club, unless approved by petition to attend the Neurobiology Journal Club instead. Students typically make their first presentations in their second year.

**Tuesday Colloquia Series:**

All students are required to attend the regular Tuesday Joint Biology/Neuroscience Colloquia.

**Thesis Research Proposition, “Inside Exam”:**

Each second year student will write and orally defend a thesis research proposition (or “Inside Exam”). For the 2018-2019 academic year, this will occur in the period of **May 20<sup>th</sup> – May 31<sup>st</sup>, 2019**.

The examining committee is composed of three faculty members and does *not* include the thesis supervisor. If requested, the thesis advisor may be present in the room during the exam as a witness (i.e. he/she must remain silent during the process and their input is strictly prohibited). Committee members should be selected by the student, but in close consultation with their thesis advisor and approved by the Graduate Committee, which will assign one faculty member to be Chair. Two members of the examining committee plus the thesis advisor and a faculty member from a University other than Brandeis will compose the student’s final thesis committee.

Written proposals will have the same format as described for the first-year “outside” exams, limited to no more than 6 pages of Results and proposed experiments. Written proposals should be emailed (as a PDF) to the committee members and the Graduate Affairs Office a minimum of one week before the defense date. Petitions for extensions must be submitted in writing to the Graduate Committee and are only granted under exceptional circumstances. The oral proposition should be presented in the form of a chalk talk (i.e. PowerPoint presentations are *not* permitted). Inside exam evaluation forms (provided by the Graduate Affairs Office) must be completed by each member of the examining committee and returned to the Graduate Affairs Office once the exam has ended. If revisions to the written exam or a re-defense are required, a second set of evaluation forms must be submitted indicating acceptance of the revision/re-defense and turned into the Graduate Affairs Office.

After the exam is completed, the Chair of the student’s examining committee should write and submit a brief written report of the student’s performance, which

represents the consensus of the whole committee. This report should be distributed to the student, the student's advisor, the graduate program Chair, and the Graduate Affairs Office to be included in the student's file.

Please contact Jim Haber with questions regarding the Inside Exam ([haber@brandeis.edu](mailto:haber@brandeis.edu)).

### **Third and Continuing Years:**

#### **Thesis Research:**

Students by this time should be well into their thesis research projects. Students must register for their advisor's section of BIOL 401d (Dissertation Research) each semester.

#### **Graduate Student Research Seminars:**

Each student, starting their third year in the program, is required to present an annual Graduate Student Research Seminar Pizza Talk to the Department. It is the student's responsibility to remind their thesis committee ahead of time of the date, and make sure that they will attend the talk, as well as meet with the student very soon afterwards as a thesis committee (usually the same afternoon or the following week). All students must register for and attend these seminars each semester, which are held on Fridays at 12:30pm.

#### **Journal Clubs:**

Every MCB student should attend the Topics in Molecular Genetics and Development Journal Club, unless approved by petition to attend the Neurobiology Journal Club instead. Students typically do their first presentations in their second year.

#### **Tuesday Colloquia Series:**

All students are required to attend the regular Tuesday Joint Biology/Neuroscience Colloquia.

#### **Annual Thesis Committee Meeting:**

The thesis committee is typically composed of two faculty members retained from the Inside Exam, plus the thesis supervisor. In the event that a student's MCB research advisor leaves for another university or is on a non-resident leave of absence for more than one year, his/her graduate students must have another MCB faculty member as a second mentor. This mentor shall meet with the student no less than once a month and will ensure that a thesis review committee meeting will be held around the time of the student's Graduate Student Research Seminar Pizza Talk.

Once thesis work has begun, **each student is required** to meet at least once per year with his/her thesis committee to complete an Annual Progress Report. These meetings should be arranged in advance by the student, and should occur very

soon after the student's Graduate Student Research Seminar Pizza Talk. After the thesis meeting, the committee will submit the Annual Progress Report summarizing the student's progress, identifying possible problems, and any recommendations. It is the student's responsibility to bring the appropriate forms to the meeting; the Progress Report is obtained from the Graduate Affairs Office. Graduating students **are required** to have all Annual Progress Reports in their files in order to remain in good standing with the program and with the Graduate School. It is the student's responsibility to make sure that the report is signed by committee members and hand-delivered to the program administrator in the Division of Science Graduate Affairs Office immediately following the annual thesis committee meeting.

Once the committee agrees that the student has satisfied all thesis requirements set by the graduate program and the student's thesis advisor (see below), the student will be asked to assemble a thesis defense committee. The defense committee typically includes all members of the thesis committee and must also include one "outside reader" outside of the student's program and often outside of the University. The outside reader should be chosen in consultation with the student's advisor several months in advance of the defense.

See the Bulletin for more detailed instructions on choosing a Dissertation Committee: <http://www.brandeis.edu/registrar/bulletin/provisional/index.html>

**IDP (individual development plan):**

An IDP is a career development tool that is used to a) maintain communication between you and your mentor(s) regarding your long-term goals and career development b) help identify an appropriate career path based on your skills and interests c) assess current and missing skills and abilities for the desired career path d) set specific goals to prepare for the desired career path. The IDP will evolve as the interests and experience level of the student changes over time.

Students in their third year and above will be required to complete an Individual Development Plan once a year. Any disagreements between the student and her/his advisor concerning the IDP should be discussed with a member of the Graduate Committee. The IDP must be received no later than the annual committee meeting, and the student is encouraged to present the IDP at this time. The student/advisor can choose the written IDP format that they prefer (and some sample forms will be provided), but must return the IDP form as well as a signed form saying that an IDP conversation has taken place, to the Graduate Affairs Office. Example IDPs and IDP requirement forms can be found on the Brandeis Knowledge Base (or other online resources) at:

<https://kb.brandeis.edu/display/SCI/Individual+Development+Plans>

**Thesis Requirements:**

Specific Ph.D. thesis requirements are set by the student's advisor and the thesis committee. As a guideline, a Ph.D. student should have at least one first-author

paper accepted or published at the time of their thesis defense, and ideally another publication (e.g. a middle author paper, or additional first author paper) in the works.

Specific deadlines for thesis submission to the thesis committee should be set by the student's advisor and approved by the entire thesis committee, but it is generally expected that the written thesis will be submitted to the committee, including the outside reader, at least two weeks in advance of the oral defense.

**Thesis Seminar:**

Upon completion of their dissertation work, students are required to give a public seminar on their research, followed immediately by a private thesis defense (student and thesis committee only). Each member of the thesis committee must be present at the seminar and the defense.

**OPTIONAL “MASTER’S IN PASSING”**

When students have completed the requirements needed to satisfy a Master's Degree in MCB, they have the option to apply for a “Master's in Passing”. Most Ph.D. students will qualify for a Master's in Passing after completing their second year in the Ph.D. program. Briefly, students must complete and pass six graduate level life science courses with a grade of B- or better, including one laboratory- or research-based course (one semester of rotations counts towards this requirement). In addition to these six courses, students must register for and attend the following required courses/seminars: one semester of Responsible Conduct of Science (or equivalent), two semesters of Journal Clubs, and two semesters of Graduate Student Research Seminar.

**TRANSITION FROM BRANDEIS M.S. TO PH.D. PROGRAM:**

Students who have earned a M.S. at another institution will be admitted as normal first-year Ph.D. students (i.e. the following text does not apply to students who have earned an M.S. from an institution other than Brandeis).

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Students in a Brandeis Life Sciences M.S. program who apply to and are accepted into the MCB Ph.D. program may be allowed to count courses and/or research experience towards the Ph.D. program. The exact timeline and circumstances surrounding the M.S. to Ph.D. transition will depend on the extent of independent lab research and courses completed during the M.S. degree. Brandeis M.S. students who have taken both BIOL 103 and BIOL 105 and who have had extensive research experience in a Brandeis lab may be able to combine aspects of the first and second-year program in an accelerated first year.

**Matriculation date:**

M.S. students may enter the Ph.D. program immediately following the completion of their M.S., as early as June 1st. The start of stipend payments will coincide with their matriculation date.

**Courses:** Courses taken during the M.S. year may count towards the Ph.D. course requirement (to be approved by the graduate Chair). These students are expected to complete the remaining classes in their first year as a Ph.D. student, but no later than the end of their second year. If the student did not take BIOL 105 and BIOL 103 during the MS, they will be expected to take these courses, along with BIOL 200 (Proseminar) in the first year of their PhD program.

**Presenting at Pizza Talks and Journal Club:**

As with all Ph.D. students, students who transition to the Ph.D. program from the M.S. program are required to register for and attend Graduate Student Research Seminar Pizza Talks and Topics in Molecular Genetics and Development journal club. Students are required to present annually, according to the timeline discussed and agreed upon at the time of matriculation into the PhD program, typically near the end of their 2<sup>nd</sup> year in the Ph.D. program.

**Rotations and selection of a Thesis lab:**

The timeline for completion of rotations and for choosing their thesis lab will depend on the extent of independent lab work carried out by the student during their Master's.

If the student has performed independent research in at least one laboratory during the M.S. (BIOL 296 and/or BIOL 299) they will be expected to complete at least two additional rotations after the M.S. is awarded (typically starting in the summer) after which the student will select a thesis lab.

Students who have taken only a Project Lab during the Brandeis M.S. will be expected to carry out four rotations and will follow a timeline more typical of a student who has just matriculated into the Ph.D. program.

While rotating, the student will register for the research rotation course (BIOL 300 for two rotations, or BIOL 301 for one rotation). 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. It is the responsibility of the student to arrange with the appropriate faculty member ahead of time. Students may choose from MCB program Life Sciences faculty, which includes faculty in the Departments of Biology, Biochemistry, Chemistry, Psychology, Computer Science, and Physics.

At the end of each rotation, the student will submit a written rotation report. One electronic copy should be sent to the program administrator in the Division of Science Graduate Affairs Office and one should be provided to the laboratory head in which the rotation was done. In exceptional circumstances, students may be granted permission (from the graduate Chair) to complete an additional rotation before joining a lab.

**Teaching:** Each PhD student is required to serve as a teaching assistant (TA) for two semesters. Teaching assignments are decided in the summer and will be emailed to students (usually in July).

Ph.D. students are expected to attend the Teaching Practicum and Title IX training for teaching fellows, which will be held each summer during New Student Orientation week in August.

A student who has transitioned from the Brandeis M.S. program and who has been granted accelerated status will TA according to the timeline discussed and agreed upon at the time of matriculation into the Ph.D. program. If the student has joined a lab at the end of the summer and has already taken BIOL 105 and BIOL 103, they may be required to TA in both semesters of the first year in the Ph.D. program; otherwise, TA assignments may be delayed into their second year in the Ph.D. program.

**First Year Proposition, “Outside Exam”:**

Students who transition to the Ph.D. program from the Brandeis M.S. program and who have been granted status as accelerated Ph.D. students are expected to complete their First Year Proposition in January of their second year in the program (their first year as a Ph.D. student). All guidelines and requirements are the same as for students who enter the program directly as Ph.D. students.

**Thesis Research Proposition “Inside Exam”:**

Accelerated Brandeis M.S. to Ph.D. students must complete their Inside Exam one year after joining their thesis lab. Extensions to this time frame must be approved by the Graduate Committee. All guidelines and requirements are the same as for students who enter the program directly as Ph.D. students.

## **EVALUATION OF GRADUATE STUDENT PERFORMANCE** **IN THE MOLECULAR AND CELL BIOLOGY PROGRAM**

**Readmission:** Each year in June/July, student progress will be evaluated, and students will receive a Progress Letter from the Graduate Committee. If the student has not completed a requirement, this will be noted in the letter, along with a suggested timeline for completion. Students will also receive a letter from the Graduate School of Arts and Sciences informing them of their readmission status and financial support for the following year.

**YEAR 1:** Students must complete their formal courses with a grade of B- or better. Each of four required lab rotations will be evaluated by the supervising faculty member, who will then submit a brief written report on the student's performance to be included in the student's permanent file. The written lab reports are **reviewed by the rotation adviser and by the graduate committee**. Students must also successfully write and defend the First Year Examination (Outside Exam) at the end of the first year, and have secured a thesis lab by mutual agreement with the faculty mentor. First Year Examination committee members will evaluate the student's performance and submit a written evaluation to the Graduate Affairs office. The Graduate Committee evaluates the progress of each student at the end of the first year. Students that perform below the minimum expectations outlined above will be placed on probation. In cases where the performance is exceedingly low they may not be re-admitted for the second year.

Students on probation must pass all of their elective courses with a grade of **B** or better and pass the Inside Exam. In addition, they must adequately perform their teaching duties and make acceptable progress on their thesis work. The student's standing in the program will be reassessed at the end of their second year **and if they have not displayed satisfactory progress they may be dismissed from the program.**

**YEAR 2:** Grades in formal courses must be B- or better. Students will submit their thesis research proposal (Inside Exam) in writing. A panel of three faculty members (not including the thesis adviser) will be selected by the student for the oral defense of the inside exam. Those committee members will evaluate the student's performance and submit a written evaluation to the Graduate Affairs Office using a form provided by the program administrator. Two of those faculty members are typically retained for subsequent service and, along with the thesis advisor, will comprise the thesis committee until the student graduates. The Graduate Committee will evaluate the progress of each student at the end of the second year. Continuation in the program will be decided based on successful defense of the First Year Exam (Outside Exam) and Thesis Proposal (Inside Exam), a grade in all six courses of B- or better, satisfactory teaching performance, and progress in thesis research. Students that perform below the minimum expectations as outlined above may not be re-admitted for the third year. Students are expected to

have all course and teaching requirements fulfilled before the start of their third year; exceptions should be discussed with the Graduate Committee.

**YEAR 3+:** Each student is required to present a research talk in the Graduate Student Research Seminar Pizza Talks sometime during each year. The student's thesis committee will meet following the talk to evaluate the student's progress and will submit the Annual Progress Report to the program administrator in the Division of Science Graduate Affairs Office. Students are required to hold at least one thesis committee meeting per year to remain in good standing with the program, but meetings can be held more frequently at the discretion of the student and thesis committee.

**THESIS:** The student will submit the completed thesis, give a public seminar, and will be examined by a panel consisting of at least three faculty members. The thesis examination committee must contain one faculty member from outside the university and the thesis advisor.

## **GRADUATE TEACHING ASSISTANTS IN MOLECULAR AND CELL BIOLOGY**

### **ASSIGNMENTS:**

Over the course of the graduate program, usually in the second year, each Ph.D. student is required to serve as a teaching assistant in TWO courses or labs.

Teaching assistant (TA) assignments are decided by an interdepartmental graduate committee based on faculty request, course enrollment, training grant requirements, and graduate student expertise. For the 2018-19 academic year, the faculty member in charge of TA assignments in the MCB and Neurobiology programs is Prof. Sebastian Kadener (skadener@brandeis.edu).

In all cases, an attempt will be made to inform graduate teaching assistants of their assignments during the summer prior to the commencement of teaching responsibilities. In cases of unexpected enrollment shifts, cancellations or additions of courses, or inequities in work load, assignments may be changed with short notice. If there is a likelihood that such a change will be made, the TA Committee will notify those teaching assistants as soon as possible to permit ample preparation time.

### **RESPONSIBILITIES:**

When the assignment is made or at the beginning of the term, graduate teaching assistants and faculty members will discuss course requirements, attendance policies, and the range of graduate responsibilities (in class, outside the classroom, administrative duties, technical assistance, e.g., running a projector, etc.).

In order to encourage an open, cooperative relationship between the graduate teaching assistant and faculty member, meetings will be held on a regular basis to discuss the progress of the course.

The TA and faculty member will consult each other on any problem arising in the course as soon as possible so that the faculty member and graduate student can cooperate in addressing it.

If TAs are to grade undergraduate papers or exams, the faculty member and TA will discuss the number of assignments, grading procedures and standards (letter grade/pass, fail/comments only, grading in pencil, and expectations for student writing ability), and an expected range of grades.

TAs may be required to hold at least two weekly office hours, usually in the evenings.

TAs are seldom asked to tutor students requiring additional help. If tutoring is expected and one hour/week is insufficient to address difficulties in the course,

the graduate student will refer the problem to the professor and, if necessary (and agreed upon), to the appropriate agency on campus for additional assistance.

Faculty members will advise TAs on policies for academic honesty and sexual harassment at the beginning of the term. At this time, procedures for alerting the proper university officers and dealing with such matters will be agreed upon.

#### **EVALUATION/OVERSIGHT/PROFESSIONAL DEVELOPMENT:**

TAs are encouraged to discuss teaching with the professor or with a member of the Graduate Committee.

TAs are expected to consult teaching materials available at the Office of the Dean of Arts and Sciences and to attend teaching seminars sponsored by the Graduate School.

Faculty should evaluate the TAs performance and provide written comments documenting the teaching fellow's experience and development over the course of the semester.

Every attempt should be made to resolve any difficulties experienced between a TA and faculty member. If such resolution is impossible, official grievances should be made per the stated procedures in the student handbook.

TAs are encouraged to document teaching experiences for future job searches. Faculty members should agree to provide letters of reference for teaching, which will be included in the student's departmental file.

At the end of the semester, students enrolled in courses will complete a "TA evaluation report" where they will provide feedback of several aspects of their TAs performance. After the course is completed, TAs can retrieve these reports from SAGE. A copy of this record will also be stored in the student's file in the Graduate Affairs Office.

## **QUESTIONS:**

### **If you have questions you can contact a member of the Graduate Committee:**

James (Jim) Haber, Chair	<a href="mailto:haber@brandeis.edu">haber@brandeis.edu</a>
Paul Garrity	<a href="mailto:pgarrity@brandeis.edu">pgarrity@brandeis.edu</a>
Bruce Goode	<a href="mailto:goode@brandeis.edu">goode@brandeis.edu</a>
Lisbeth (Liz) Hedstrom	<a href="mailto:hedstrom@brandeis.edu">hedstrom@brandeis.edu</a>
Michael (Mike) Marr	<a href="mailto:mmarr@brandeis.edu">mmarr@brandeis.edu</a>

### **You may also contact our program administrators in the Division of Science Graduate Affairs Office:**

MCB, Neuroscience: Jena Pitman-Leung	<a href="mailto:jpitmanleung@brandeis.edu">jpitmanleung@brandeis.edu</a>
Director: Maryanna Aldrich	<a href="mailto:aldrich@brandeis.edu">aldrich@brandeis.edu</a>
Graduate Affairs Office team	<a href="mailto:scigradoffice@brandeis.edu">scigradoffice@brandeis.edu</a>

### **The following senior graduate students have also agreed to answer questions:**

Nick Clark (6 <sup>th</sup> year, Marr lab)	<a href="mailto:nclark@brandeis.edu">nclark@brandeis.edu</a>
Travis Rogers (3 <sup>rd</sup> year, Sengupta lab)	<a href="mailto:travisrogers@brandeis.edu">travisrogers@brandeis.edu</a>
Becca Fenn (2 <sup>nd</sup> year, Lee lab)	<a href="mailto:rhf10@brandeis.edu">rhf10@brandeis.edu</a>
Meghan Harris (2 <sup>nd</sup> year, Marr lab)	<a href="mailto:mth@brandeis.edu">mth@brandeis.edu</a>