



BIOMEDICAL ENGINEERING GRADUATE PROGRAM

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GRADUATION PROGRAM IN BIOMEDICAL ENGINEERING

The Graduate Program in Biomedical Engineering offers advanced training appropriate for careers in academia, government, or industry in the field of Biomedical Engineering. Admission is open to both master's-level and Ph.D.-level students.

I. Governance

To fulfill Ph.D. requirements, students must complete a prescribed course of study, pass a Qualifying Examination, complete and publicly defend a doctoral dissertation, and participate in the undergraduate and graduate teaching programs in Biomedical Engineering, which include course offerings in both the School of Engineering and the Division of Biology and Medicine. Attainment of the Ph.D. degree normally requires four to six years for Ph.D. candidates and three to four years of graduate work for M.D./Ph.D. candidates. A master's Degree will require one to two full years depending upon the student's undergraduate preparation.

The Graduate Program in Biomedical Engineering is administered by the Program Director and a series of standing and ad hoc committees, as a component of the Division of Biology and Medicine and the School of Engineering. Standing committees are the Steering Committee and the Graduate Program Committee, described below. Ad hoc committees include a Qualifying Examination Committee, Thesis Advisory Committee, and Thesis Committee for each graduate student. These committees, chosen at appropriate stages in the student's career, are described below.

The Steering Committee is composed of one senior faculty member of the School of Engineering, one senior faculty member of the Division of Biology and Medicine, and the Director(s) of the Center for Biomedical Engineering. The Steering Committee is responsible for establishing policy, allocating resources and designating faculty as trainers or members within the Graduate Program, as outlined below. The term for faculty members of the Steering Committee is five years, renewable. Senior faculty member, in this context, means tenured, primary BME faculty member.

The Graduate Program Director is a senior faculty member jointly appointed by the Dean of Medicine and Biological Sciences and the Dean of Engineering upon recommendation by the Steering Committee for a term of three years, renewable. The same individual may serve as both Director of the Center for Biomedical Engineering and as Graduate Program Director, or different individuals may hold each post.

The Master's Program Director is a faculty member jointly appointed by the Dean of Medicine and Biological Sciences and the Dean of Engineering upon recommendation by the Steering Committee for a term of three years, renewable. The same individual may serve as both Director of the Center for Biomedical Engineering and as Master's Program Director, or different individuals may hold each post.

The Graduate Program Committee is composed of the Program Director and at least two other faculty members. The faculty members are appointed by the Program Director in consultation with the Steering Committee. The term for faculty members of the Graduate Program Committee is three years, renewable. The responsibilities of the Graduate Program Committee include admissions recommendations to the Graduate School and curriculum recommendations to the Steering Committee.

The faculty of the Graduate Program will be divided, with respect to graduate training, into two categories, members and trainers. Members will have an active research interest in the area of Biomedical Engineering. They will participate in one or more of the following activities associated with the Program: Serve as an instructor in an upper level course; Attend program seminars or journal clubs; or Serve on ad hoc committees focused on maintaining the excellence of the Program. They may serve as thesis advisors for master's students. Trainers are those faculty who may serve as thesis advisors for Ph.D. students. Trainers must conduct an active research program and must be prepared to commit the time and effort required to supervise the student's research. They are also expected to have the financial resources to support research projects by graduate students. When accepting a graduate student into the lab, trainers must make a commitment to provide funding for stipend, tuition, health insurance, and fees until the student's thesis is completed. Any potential complications to fulfilling this obligation must be communicated to the Program Director in a timely manner. In cases where student progress is not satisfactory, this feedback must be documented and shared with the student and Program Director. Doctoral training is most appropriate in an environment where the student can interact with other active investigators and graduate students.

Potential members and trainers are proposed to the Steering Committee by one of its members, who will provide the committee with documentation of the candidate's credentials. Designation of faculty status, as a member or trainer, is made on the basis of the credentials, subject to review every three years. New trainers must provide a summary of the academic and research guidance they provided to their student following the first-year annual review for assessment of the training environment by the Steering Committee.

II. Admission

Entering students are expected to have an undergraduate bachelor's degree in either engineering or science. Past coursework should generally cover topics in math (e.g., multivariable calculus, differential equations, linear algebra) as well as physics (e.g., statics, electromagnetism, circuits), chemistry (e.g., materials), and/or biology (e.g., cell biology, biochemistry, anatomy/physiology), with flexibility related to the exact courses taken. Doctoral and master's applications will be made available for review to the faculty, which will submit their admission recommendations to the Graduate Program Committee.

Students can be admitted to the Biomedical Engineering Graduate Program as Ph.D. candidates or as candidates for a terminal master's degree. Non-Brown students must apply by completing the standard Graduate School application and indicate their interest in the Biomedical Engineering Ph.D. or master's degree programs. TOEFL scores are required for international applicants unless they obtained an undergraduate degree from a US institution or a non-US institution where primary instruction was in English. The Ph.D. application requires GRE scores, a personal statement, a CV/resume, and three letters of recommendation. The master's application does not require GRE scores but does require a personal statement, CV/resume, and three letters for recommendation. The election to pursue the Sc.M. or Sc.M.-thesis degree requirements is made upon matriculation. Students in the master's programs are normally not eligible for financial aid.

Brown undergraduate students may enter through the 5th Year Master's Program. For the 5th Year Master's Program, a student must apply prior to the end of the last semester of undergraduate study at Brown. The application does not require GRE scores, but does require a personal statement, CV/resume, and two letters of recommendation. 5th Year students can pursue the Sc.M. or Sc.M.-thesis degrees. When applying to this program, one of the letters of recommendation must be obtained from a Brown faculty member willing to host the student in the lab or mentor their design project. To be eligible for the 5th Year Master's Program, students must have successfully completed and fulfilled all requirements of an undergraduate concentration at Brown. The Biomedical Engineering Graduate Program does not accept students into Brown's concurrent baccalaureate and master's program.

Upon review, final admission recommendations will be sent to the Graduate School. Any requests for transfer into the Program will be evaluated by the Graduate Program Director in consultation with the Graduate Program Committee. All students admitted to the Graduate Program must submit their official final transcript demonstrating conferral of all degrees listed on their application before matriculating into the Program. Failure to provide the official transcript according to the Graduate School's deadline will result in a student being withdrawn from the Program. Students participating in the Graduate Program in Biomedical Engineering are admitted by the Graduate School and must primarily affiliate with departments in the Division of Biology and Medicine, the School of Engineering, or other affiliated departments as deemed appropriate by the Program Director.

III. Counseling

Until the Thesis Advisory Committee is selected, counseling on academic matters and review of student progress will be carried out by the Graduate Program Committee. This committee will put students in touch with other faculty members with related interests who may also provide useful advice. In subsequent years, counseling will be provided by the advisor and the student's qualification exam/thesis committees.

IV. Ph.D. Course of Study

The University requires three years of full-time study (i.e., 24 tuition units) for graduation at the Ph.D. level. Students must receive a grade of B or better on courses used in fulfillment of the Ph.D. requirement, and these courses must be taken for a grade rather than on a credit/no credit (S/NC) basis, with the exception of Graduate Independent Study. A mandatory S/NC course requires Program Director approval and the agreement of the professor to write a course evaluation on the student's course performance for the Program. A maximum of 8 tuition units can be transferred from post baccalaureate work. Likewise, students in the M.D./Ph.D. program can receive 8 credits for satisfactory completion of the first two years of the Program in Medicine.

Students must complete an approved sequence of six structured, non-seminar upper-level courses, at least two of which must be in engineering, two of which must be in biology, and two of which must be 2000-level courses. These courses should be selected in consultation with the student's research advisor and must be taken for a grade. The Program Director has discretion to approve courses outside of biology and engineering in cases where they appropriately supplement or support a student's thesis research.

In addition to the structured course requirements, all students must fulfill training in Responsible Conduct of Research (RCR) and statistics. Students with demonstrated experience in statistical design and analysis may be excused from the latter training requirement at the discretion of the Program Director.

V. Program Seminars

Graduate students must attend and participate in regularly scheduled biomedical engineering seminars. Each student will give at least one departmental seminar each year in the BME/Biotechnology Seminar Course (BIOL 2230/40). This presentation may be based on the student's original research or may consist of a critical analysis of the literature. Students must also attend the Center for BME Seminar Series that hosts external speakers in the field of biomedical engineering. Students are encouraged to attend seminar series of individual interest hosted by other programs/departments.

VI. Teaching

Graduate students are encouraged to gain experience in teaching. Students may serve as a teaching assistant, preferably in a course in which graduate students conduct a discussion or laboratory section or present a small number of lectures. Participation in seminars and certificate programs offered through the Sheridan Center is another way to enhance teaching skills.

VII. Research

The choice of a thesis advisor and research area will be made no later than by the end of the first semester unless an exception has been made by the Program Director. Entering students who have not identified a thesis advisor before coming to Brown are encouraged to attend seminars, talk with faculty, and participate in available opportunities for rotation through different research areas. Progress of entering students will be reviewed by the Graduate Program Committee at the end of the first year. These students will complete the Annual Progress Review form describing their academic and research progress and have it reviewed by their advisor, who will send it to the Graduate Program Committee along with a full evaluation of the student's performance in the first year. Failure to select a research mentor by the end of the first semester can result in a student being put on academic warning.

All students are expected to continually pursue research in a BME faculty trainer's laboratory for the course of their graduate career. Failure to maintain residence in a lab can result in a student being put on academic warning. Failure to produce satisfactory research progress or not maintaining continuous research progress can result in a student being put on academic warning.

VIII. Ph.D. Qualifying Examination

By July 31 prior to the start of 5th semester, each student is required to have taken a Qualifying Examination. The examining committee, designated the Qualifying Examination Committee, shall consist of the thesis advisor and at least three other members of the Brown Faculty. These other members should include one with a primary appointment as faculty in the School of Engineering and one with a primary appointment as faculty in the Division of Biology and Medicine. At least one member of the committee must also be a member of the Graduate Program Committee (who will give continuity from exam-to-exam). The student and thesis advisor will jointly select members of the committee, extending requests to serve in a timely manner. The student or thesis advisor will send a memo to the Graduate Program Director and Coordinator listing the membership of the committee for inclusion in the student's file. The Program Director will designate the chair of the committee, which typically will be the Graduate Program Committee representative. The thesis advisor cannot serve as chair of the committee. Requests for substantial delays in achieving the stated deadline will be reviewed by the Program Director in consultation with the Graduate Program Committee.

The Qualifying Examination will consist of written and oral parts. The student will submit a detailed, written document describing both research progress and a proposal for thesis research. The thesis proposal document will be written in the style of an NIH R01 research grant proposal with the following sections; specific aims (1 page), motivation and significance, innovation, preliminary results, research strategy, and literature cited. The research strategy should include relevant subsections such as validation/evaluation and potential problems/alternative strategies, as well as a realistic timeline. A final draft of the thesis proposal must be provided to all Qualifying Examination Committee members at least two weeks prior to the date of the oral examination. This document will be the primary focus of the oral examination. The exam will consist of an oral presentation of the proposal by the student. The Committee is free to ask questions at any time during the examination period. The Committee will assess the student's written and oral communications skills, progress in research, ability to devise a research plan, and depth and breadth of knowledge in the chosen topic and, more broadly, the discipline of Biomedical Engineering. Based on the student's overall performance, the Committee will make one of three recommendations; "pass, pass with stipulations, or fail."

- If a recommendation of "pass" is made, the student will advance to candidacy immediately.
- If a recommendation of "pass with stipulations" is made, the Committee will devise a plan and time line for the student to correct all deficiencies and a means to assess that the deficiencies have been corrected. If these deficiencies are minor, the student will remain in good academic standing. If the deficiencies are major, the student may be placed on academic warning. Failure to meet stipulations by the dates designated by the Committee is grounds for placing the student on academic warning with possible dismissal from the Program. Once stipulations have been met and approved by the Committee, the student will advance to candidacy.
- If a recommendation of "fail" is made, the Committee will decide whether to re-examine the student, require remedial action, or request the student's dismissal from the Program. The Chair will communicate the final decision to the candidate, summarizing the Committee's response. Written notification of the outcome of the examination, with notes detailing the student's perceived strengths and weakness and specifics of any stipulations, will be sent by the Chair to the Program Director and Coordinator along with a copy of the student's written proposal for inclusion in the student's record. Qualifying Examination results will be reported to the Registrar.

IX. Ph.D. Thesis Advisory Committee

Each Ph.D. candidate will have a Thesis Advisory Committee, consisting of the thesis advisor and at least three other members of the Brown Faculty. These committee members should include one with a primary appointment as faculty in the School of Engineering and one with a primary appointment as faculty in the Division of Biology and Medicine. At least one member must be primary faculty in the Center for Biomedical Engineering. The student and thesis advisor will jointly select members of the committee, extending requests to serve in a timely manner. Members of the Qualifying Examination Committee are encouraged to serve as members of the Thesis Advisory Committee. The student or thesis advisor will send a memo to the Graduate Program Director and Coordinator listing the membership of the Thesis Advisory Committee for inclusion in the student's file. A senior faculty member on the committee, not the thesis advisor, will serve as chair of this advisory committee. Annual meetings of the Thesis Advisory Committee are required each year after completion of the Qualifying Examination. If the full committee is unable to meet in person, the student must complete one-on-one meetings with additional committee members. Feedback from these members should be directed to the student as well as compiled by the Committee Chair. The purpose of this committee is to follow the progress of the student, to help the student with difficulties encountered in the dissertation research, and to aid with the evolution of the project. The student will complete an Annual Progress Review form that contains a written report of progress and proposed work and distribute it to committee members prior to each annual meeting. Progress reports should include courses completed, manuscript(s) published, submitted, or in preparation along with a detailed description of planned experiments. Students may elect to make a brief (e.g., 15 minute) slide presentation to summarize their annual progress or simply have a discussion about the contents of the annual progress document. A copy of the student's annual progress report must be sent to the Program Director and Coordinator for inclusion in the student's file. Accompanying this file should be an assessment by the thesis committee on the acceptability of the student's progress and any concerns that might exist.

Prior to scheduling a thesis defense, the Ph.D. candidate must convene a meeting with the Thesis Advisory Committee (pre-defense meeting). The student will give an oral presentation summarizing the work completed, list of authored manuscripts (accepted for publication, submitted, or in preparation), and proposed plan to finish. Students cannot schedule a thesis defense without approval from their Thesis Advisory Committee. This pre-defense meeting must be held between 1-3 months prior to the defense date. A written memo will be sent by the Committee to the Program Director and Coordinator confirming the status of the research to approve scheduling of the thesis defense (see below).

X. Ph.D. Thesis

The Thesis Committee consists of the thesis advisor and at least three other members of the Brown faculty. These other members should include one with a primary appointment as faculty in the School of Engineering and one with a primary appointment as faculty in the Division of Biology and Medicine. At least one member must be primary faculty in the Center for Biomedical Engineering. An authority in the area of the thesis research from another institution is also strongly recommended to be included. The Program Director will designate the Chair of the committee, typically the ranking BME faculty member other than the thesis advisor. The Chair will preside over the thesis examination proceedings. The doctoral thesis will represent a comprehensive summation of the student's total research effort. It must contribute significantly to the field of study and be of sufficient quality to merit publication in a refereed

journal. The thesis can be presented in either of two formats. The first format, which may be used by any degree candidate, will contain the following elements:

- a) Abstract – less than 350 words summarizing the thesis problem, methods used to solve the problem, results, and conclusions.
- b) Introduction – a comprehensive review of the field and reasons for performing the research.
- c) Methods and Results – a description of the research performed.
- d) Discussion – an evaluation of the contribution of the thesis research to the field of study and consideration of future directions.

The second format may only be used by candidates whose thesis work forms the basis for two or more papers accepted for publication in refereed journals. In this case the published papers (or relevant portions of the manuscripts) may be substituted for the Methods and Results section of the thesis. Otherwise the format will be the same as that given above; i.e., it should contain a complete Abstract, Introduction, and Discussion. *All candidates must publish or show proof of acceptance of at least one first-author, original research paper by the date of thesis defense.*

If portions of the student's work have been done in collaboration with other investigators, the candidate will explicitly state these contributions to the work. Detailed instructions on preparation and format of the Ph.D. dissertation should be obtained from the Graduate School.

Students must submit a copy of their thesis to the Thesis Committee at least two weeks prior to the date of the thesis defense. This defense copy of the thesis must be approved by the thesis advisor prior to submission to the Thesis Committee. After submission of the thesis, the student will present this work in a public seminar, following which there will be an oral examination attended by members of the Thesis Committee and other program faculty members who choose to participate. The student, in consultation with the thesis advisor, will schedule the thesis defense and notify the Program Director and Coordinator at least one week before the defense. The thesis defense will be announced broadly through appropriate Brown forums and postings.

The oral examination must follow the Graduate School's rules, provided to the thesis advisor prior to the defense:

- 1) A brief preliminary consultation is appropriate among the members of the committee on their reactions to the dissertation, as well as agreement on the general plan of the examination, the order in which questioners will be called upon, etc.
- 2) Then comes admission of the candidate to the examination room and introduction of the candidate and any faculty or others attending who do not know each other. Formal proceedings are opened by the thesis advisor, who gives a brief resume of the candidate's career to date.
- 3) At the conclusion of the examination, the candidate is asked to withdraw to a nearby area to await the committee's decision. Under the presiding officer's direction, the committee members discuss the candidate's performance. When this discussion is concluded, the committee votes,

and the votes are recorded on the "Report of Final Examination". Member of the department of professorial rank (Assistant Professor and above) are ordinarily asked to vote.

- 4) If the examination is satisfactory, the candidate is called back into the room to receive congratulations. If the examination is not satisfactory, the presiding officer should communicate that conclusion to the candidate privately. In case of serious disagreement among committee members, the question might be held in abeyance for a day or two to allow time for reflection and further discussion, in which event the candidate should be informed that he or she will be notified shortly.
- 5) Satisfactory outcomes can still require minor, textual changes to the physical thesis document. Non-satisfactory outcomes are caused by significant problems with the thesis, such as a clear lack of understanding of the work or revisions that would require any laboratory research. In the case of a non-satisfactory outcome, the candidate will leave the program with a terminal master's degree. The thesis defense can only be taken once.
- 6) The forms which must be filled out are sent to the administrative assistant of the department, who sees that the presiding officer has them at the appropriate time. After the examination, these documents should be returned to the Graduate School.

XI. Financial Support

Graduate students pursuing the Ph.D. degree are generally accepted into the Biomedical Engineering Program with a commitment of financial support while their research and academic studies progress satisfactorily and they are otherwise in good standing.

Any doctoral student in good standing and in compliance with all program requirements may request limited, annual travel funds from the Graduate Program Director, who administers the Graduate Program budget. These funds are available to students presenting an abstract at a scientific meeting and can only be requested once per fiscal year (July-June). Additional travel funding is available through the Graduate School and Division of Biology and Medicine.

Ph.D. students accepted through the standard admissions process will be guaranteed five years of support by Brown University, contingent on satisfactory academic and research progress. This covers tuition, stipend, and health insurance and fees and is contingent on the student remaining in good standing. Financial support for degrees other than the Ph.D. are not provided by the University.

XII. Master's Degree

Master's of Science Degree – research track (Sc.M.-thesis)

To satisfy the requirements of the Sc.M.-thesis degree in the research track, students must complete an approved program of study consisting of a minimum of eight semester-long courses (eight tuition units). No more than three of the eight courses are to be for thesis research (Graduate Independent Study). Students must complete at least five, structured, advanced-level (1000/2000-level) biology and

engineering courses, at least two of which must be in biology and two in engineering. These courses must be approved by the Master's Program Director. All students must attain a grade designation of B or better on courses/credits to count toward their degree requirements. In general, courses/credits may not be taken on an S/NC basis, with the exception of Graduate Independent Study. A mandatory S/NC course requires Program Director approval and the agreement of the professor to write a course evaluation on the student's course performance for the Program. If a student does not pass their credits with a grade designation of B or better, they may be put on academic warning. Students must also complete the Responsible Conduct in Research (RCR) seminar. Students who cannot attend the seminar will be required to complete a replacement online RCR course. If the RCR requirement is not fulfilled by the end of their first semester, the student may be placed on academic warning.

All students (5th year and non-Brown) pursuing an Sc.M.-thesis degree must select a thesis advisor by the end of their first month in the program with whom they will do research for the duration of their time in the Program. Students are encouraged to have open conversations with their thesis advisor about the amount of time that should be dedicated to their thesis research and general expectations before joining a lab. It is expected that students are performing thesis research even if they are not enrolled in a graduate independent study course. Thesis research progress will be evaluated each semester by the student's thesis advisor. If a student is not making satisfactory progress on their thesis, their advisor may recommend to the Master's Program Director that the student be put on academic warning. In their terminal semester, students, in consultation with their thesis advisor, must choose a thesis committee which will consist of the thesis advisor and at least two other members of the faculty. Of these committee members, one must have a primary faculty appointment in the School of Engineering, one with a primary faculty appointment in the Division of Biology and Medicine, and one listed as a primary faculty member in the Center for Biomedical Engineering. The list of faculty serving on the committee should be communicated to the Master's Program Director and Coordinator. Students must prepare a written thesis according to the Graduate School guidelines. The written thesis is due to the student's committee two weeks before the scheduled thesis defense. The final written thesis must follow all the guidelines specified by the Graduate School and be submitted to the Graduate School by the first business day in May. The thesis defense will be an open presentation with the requirement that the entire thesis committee is present. The thesis defense does not require a closed examination session. After reviewing the written thesis and presentation, the thesis committee will make a decision on whether it is acceptable for the Sc.M.-thesis degree.

Master's of Science Degree – design track (Sc.M.-thesis)

To satisfy the requirements of the Sc.M.-thesis in the design track, students must also complete an approved program of study consisting of a minimum of eight semester-long courses (eight tuition units). Two of these courses should be ENGN 1930L and 1931L Biomedical Engineering Design and Innovation I and II in order to define and engage in a translational design project with a design team. Students may enroll in one additional independent study course. Students must complete at least five, structured, advanced-level courses, at least two of which must be in biology and two in engineering. The fifth structured course can be an additional course in biology, an additional course in engineering, or an elective in design from an approved list. Students must attain a grade designation of B or better in all courses, which may not be taken on an S/NC basis. A mandatory S/NC course requires Program Director approval and the agreement of the professor to write a course evaluation on the student's course performance for the Program. Design students or teams must submit and defend an acceptable design

project addressing a clinical challenge, as determined by critique panel. In their terminal semester, teams, in consultation with their design mentor, must choose a critique panel. The critique panel should include the design mentor and at least two other expert members. Of these panel members, one must have a primary faculty appointment in the School of Engineering, one with a primary faculty appointment in the Division of Biology and Medicine, and one listed as a primary faculty member in the Center for Biomedical Engineering. It is also encouraged that one panel member have a design, industry, or clinical background. Review and approval of the written design report and presentation will be made by this panel. Teams must prepare a written thesis according to the Graduate School guidelines. The written thesis is due to the team's panel two weeks before the scheduled critique. The critique will be an open presentation with the requirement that the entire panel is present. The critique does not require a closed examination session. Each team member should submit their own, final thesis to the Graduate School by the first business day in May, detailing the full design project while providing focused descriptions of their personal contributions.

Master's of Science Degree – non-thesis (Sc.M.)

Students who elect to fulfill the requirements of the non-thesis program receive the Sc.M. degree. The Sc.M. degree consists of a minimum of eight semester-long courses (eight tuition units). These courses must be 1000/2000-level, structured courses relevant to the field of biomedical engineering. At least three of these courses must be in the biological sciences and three in engineering. These courses must be approved by the Master's Program Director. All students must attain a grade designation of B or better on courses/credits to count toward their degree requirements. Courses/credits may not be taken on an S/NC basis. If a student does not pass their credits with a grade designation of B or better, they may be put on academic warning.

5th Year Master's of Science Degree (Sc.M or Sc.M.-thesis)

As many as two graduate-level courses taken at Brown as part of the student's undergraduate coursework may be applied towards the requirements of the graduate degree as long as they were not used towards fulfillment of the student's undergraduate concentration and are approved by the Master's Program Director. The 5th Year Program can be pursued within any of the three programs described above (non-thesis, thesis research/design). For the 5th Year Sc.M.-thesis (design track), students that have already taken ENGN 1930L and 1931L as part of their concentration requirements cannot apply these courses to the master's program, but they can substitute structured or independent study courses for these courses.

VI. M.D./Ph.D. Degree

Applicants to the Brown University Program in Medicine may also apply to the M.D./Ph.D. program. M.D./Ph.D. students must complete all of the BME Program requirements specified for the Ph.D. degree. Prior to leaving for continued medical training, the student must successfully pass the thesis defense, have the final written thesis signed by committee members, and submit this document to the Graduate School. If these requirements are not completed by the time the M.D./Ph.D. student leaves, then the student will be removed from the Ph.D. graduate program and awarded a terminal master's degree, commensurate with the completed requirements.

XIII. Dismissal

Failure to fulfill any requirements in a timely fashion will result in a student being placed on academic warning. A student on warning may be dismissed from the Graduate Program. A student may be dismissed from the Graduate Program for academic or non-academic reasons. The Graduate Program Committee will review each case. Two thirds of the Graduate Program Committee will constitute a quorum, and final decisions will require a majority vote. Appeal of such decision is to the Dean of the Graduate School.