

Boston University  
Mechanical  
Engineering

PhD Student Handbook  
2024-2025 Academic  
Year

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## 1. INTRODUCTION AND CODE OF CONDUCT

This document presents an expanded description of the requirements for earning a PhD in Mechanical Engineering (MechE) at Boston University (BU). It also outlines the administrative and operational details involved in completing these requirements. This document is intended to serve as a reference guide for students and faculty in MechE.

The BU MechE department policies, its officers, and its representatives, including all students and faculty, will strive at all times to foster a positive culture for work and study which promotes welcome, upholds dignity of all individuals, and permits freedom of thought and expression within a framework of mutual respect. Everyone in our community is expected to adhere to these guidelines of personal and professional conduct.

Boston University prohibits discrimination and harassment on the basis of race, color, natural or protective hairstyle, religion, sex or gender, age, national origin, ethnicity, shared ancestry and ethnic characteristics, physical or mental disability, sexual orientation, gender identity and/or expression, genetic information, pregnancy or pregnancy-related condition, military service, marital, parental, veteran status, or any other legally protected status in any and all educational programs or activities operated by Boston University. Retaliation is also prohibited. Please refer questions or concerns about Title IX, discrimination based on any other status protected by law or BU policy, or retaliation to Boston University's Executive Director of Equal Opportunity/Title IX Coordinator, at [titleix@bu.edu](mailto:titleix@bu.edu) or (617) 358-1796. Boston University's full Notice of Nondiscrimination is available at <https://www.bu.edu/policies/boston-university-notice-of-nondiscrimination/>.

## 2. OVERVIEW OF PHD PROGRAM TIMELINE

Typical progress through the MechE PhD program follows the timeline described below. Note that there are different coursework requirements for post-Bachelors (post-BS) students or post-Masters (post-MS) students.

**Year 1:** The student will identify a Research Advisor and a funded project. The student will take courses if post-BS. All students are expected to take the qualifying exam in the spring or summer.

**Years 2-3:** The student will participate in research with a Research Advisor. The student will complete two terms of graduate student teaching (GST) along with their associated training courses. The student will complete a post-qualifying exam meeting at least annually. Students are expected to complete a Prospectus by the end of Year 3. If the student is post-BS, they will finish their remaining classes.

**Years 4-5:** The student will perform immersive research with their Research Advisor. The student will meet with their Prospectus Committee at least annually. The student will complete a Dissertation and Defend this in a Final Oral Exam.

## 3. ADMINISTRATION OF THE PHD PROGRAM

The Departmental PhD Program Committee oversees most aspects of PhD program, including admissions, petitions, program requirements, and monitors the progress of each student towards

completion of degree requirements. The Associate Chair for Graduate Programs (ACGP) chairs the Departmental PhD Program Committee and is a member of the faculty. The Department's ACGP is also a member of the College of Engineering Graduate Committee.

The program is administered by the MechE PhD Program Manager (PPM) who is a member of the staff located in the MechE Office (110 Cummington Mall). The PPM and ACGP may be contacted for all matters relating to the PhD program. Currently, the ACGP is Professor Keith A. Brown and the PPM is Emery Dutton.

## **4. ADMISSIONS**

Students may be admitted to the PhD program with either a Bachelor's or a Master's degree, or their equivalent, in mechanical engineering or a closely related field.

Admission requirements and dates can be found in the College of Engineering's Graduate Programs Office's website: <http://www.bu.edu/eng/prospective-graduate/apply/>

## **5. OVERVIEW OF DEGREE REQUIREMENTS**

### **5.1 Course Requirements**

The student should select courses in consultation with their Academic Advisor. This consultation should involve a discussion of the match between the student's interests and the course content, as well as the time commitments the student anticipates making to coursework, research, and teaching over the course of the term. The student's course selection must be approved by the student's Academic Advisor at the start of each term. For post-BS students, the PhD program planning sheet should be used to guide the student's selection of courses. A completed planning sheet signed by the Academic Advisor needs to be submitted to the PPM upon completion of the courses chosen to fulfil the course requirement as laid out in the course planning sheet. If a post-BS student wishes to utilize a 4-credit independent study credit towards their Master's degree, they must submit a petition to be reviewed by their advisor and the ACGP.

#### **5.1.1 Credit Requirement for Post-BS PhD Students**

Post-BS PhD students are required to complete a minimum of 64 credits applicable to their degree. Of this total, 24 credits must be structured courses at the 500-level or higher, and must satisfy the requirements on the Post-BS PhD program planning sheet. A minimum of 16 research/dissertation credits is required.

#### **5.1.2 Credit Requirement for Post-MS PhD Students**

Post-MS students are required to complete 32 credits applicable to their degree. Of those, a minimum of 8 credits of research/dissertation are required. Post-Master's PhD students, who have completed all credit requirements, are required to register for a minimum of 2 research or dissertation credits each academic term unless taking a specific course or on an approved Leave of Absence. Courses below the 500-level are not applicable to the post-MS PhD program.

No courses may be transferred from other universities to reduce the 32-credit requirement.

Post-Master's PhD students who obtained their Engineering Master's degree at Boston University may petition to apply credits not used for their Master's degree to their PhD program. Only credits that are applicable to degree requirements are acceptable (i.e., 500-level and above, with grade of B or better, etc.). The student is required to fill out a petition form and have it signed by their Academic Advisor and ACGP before submitting it to the Graduate Programs Office for processing.

### **5.1.3 Auditing Courses**

The College of Engineering's policy for auditing courses can be [found here](#).

### **5.2 Dissertation Research Project**

The dissertation research project is a major research endeavor. Each student is responsible for finding a Research Advisor and conducting scientific studies under the mentorship of the Research Advisor. The Research Advisor provides guidance to the student, but the student is expected to contribute ideas and to grow to work independently. Each student is responsible for completing four milestones on the path to completing the dissertation research project: the PhD Qualifying Examination, the Prospectus Defense, the Final Oral Examination, and completion of a satisfactory dissertation and its submission to the university library.

### **5.3 Graduate Student Teaching (GST)**

Each PhD student is required to complete two terms of training as a graduate student teacher (GST). This includes two terms of teacher training through courses ENG ME 801 and ENG ME 802, and active, supervised teaching as a GST. Typically, in the first term of training as a GST, the PhD student will enroll in ENG ME 801. In the second term of training as a GST, the PhD student will typically enroll in ENG ME 802.

### **5.4 Responsible Conduct of Research (RCR) Training**

Each PhD student must complete Responsible Conduct of Research (RCR) training by the time they complete their Prospectus Defense. The guidelines for how to fulfill the RCR requirement can be found here: <https://www.bu.edu/research/ethics-compliance/responsible-conduct-of-research/training-programs/rcr-for-doctoral-or-postdoctoral-researchers/>

There are two steps to complete the RCR requirements. The first is to complete the RCR Training through CITI. More information on Step 1 can be [found here](#).

The second step is to register for the RCR course (ENG EK 800). The RCR course is a 1 credit, non-tuition bearing course open to all PhD students and postdoctoral scholars. This 10-week course meets once weekly for 50-minute sessions and fulfills the National Science Foundation and National Institutes of Health requirements.

## **6. ACADEMIC STANDARDS AND SATISFACTORY PROGRESS**

### **6.1 Academic Standards**

The academic progress of every graduate student is reviewed at the end of each term. Failure to make satisfactory progress and remain in *Good Standing* can result in *Academic Probation*, *Suspension* for a stated time or until stated conditions are met, or *Dismissal*, as detailed below. Grades of C+ or lower are not applicable to satisfying the PhD degree requirements. Every student is required to adhere to [Boston University's Academic Conduct Code](#) in all aspects of their research, coursework, and teaching. This code stipulates the university's standards for academic honesty and integrity.

### **6.1.1 GPA Requirement for Graduation**

Doctoral students must complete all degree program requirements and earn a cumulative grade point average of at least 3.00 to be awarded a degree. The cumulative grade point average includes all coursework taken after matriculation and all courses completed prior to matriculation submitted in fulfillment of degree requirements.

### **6.1.2 Good Academic Standing**

Students maintain good academic standing when they: (1) earn a term GPA of at least 3.00 (students enrolled only in Pass/Fail courses are exempt from the term GPA standard); and (2) maintain a cumulative GPA of at least 3.00.

### **6.1.3 Academic Probation**

A student is put on Academic Probation when they earn a term or cumulative GPA below 3.00. Students on Academic Probation may have their financial aid discontinued.

Students are reviewed after one term on Academic Probation. Those who earn a term and cumulative GPA of 3.00 or above will return to Good Standing. Those students who do not achieve Good Standing (as defined above) after the probationary term will be subject to Academic Suspension, Dismissal, or an additional term of Academic Probation as determined by the college on a case-by-case basis.

### **6.1.4 Academic Suspension or Dismissal**

A student on Academic Probation faces Academic Suspension or Dismissal when they have not achieved Good Standing after being on Academic Probation for the most recent term. Specifics regarding Dismissal or the duration and terms of the Academic Suspension will be determined by the College on a case-by-case basis. Students having a term or cumulative GPA below 2.00 is grounds for Dismissal. Dismissal results in permanent separation from the University. Appeals of Dismissal or Suspension are directed to the Associate Dean for Academic Programs.

### **6.1.5 Reinstatement after Academic Suspension**

Students who have fulfilled their period of Academic Suspension must meet with their Academic Advisor and must also reestablish their standing in the college by contacting the College of Engineering Graduate Programs office.

## **6.2 Satisfactory Progress**

MechE considers that a PhD student is making Satisfactory Progress towards completing the PhD program if the student meets the following conditions:

The student is in Good Academic Standing.

By the end of the student's second term, they have secured commitment from a faculty member to serve as the student's research advisor. This commitment signifies that the faculty member will use a research grant to provide a Research Assistantship to the student starting at the beginning of their first Summer term (i.e. May 1 of the Spring following a Fall starting date) or, in a case where the student has an external fellowship, that the faculty member will mentor the student on a dissertation project that is consistent with the terms of the fellowship. *This commitment must be renewed in each subsequent term for the student to be considered to be making Satisfactory Progress.*

The student has passed the PhD Qualifying Exam by the end of the student's third term.

Within two years of attaining candidacy in the PhD program, they have passed the Prospectus Defense. Any student not making Satisfactory Progress may be subject to Dismissal from the PhD program.

## Dismissal of a Student from the Research Advisor's Group

Sometimes a student, the advisor, or both feel it is appropriate to sever the student-advisor relationship. If this action is initiated by the research advisor, then the research advisor must provide a letter to the student, copying the ACGP and PPM. This letter should be provided 4 months ahead of the dismissal date (equivalent to a term or summer). During this time, the student is encouraged to find another research advisor who is willing and able to fund the student. The department will advise the student of possible alternatives, but it is ultimately the responsibility of the student to find a new research home. The department may aid the student by providing summer teaching or by providing a term of gap funding if there is another faculty member willing to supervise the student. However, there is no guarantee provided by MechE to continue to fund a student without a research advisor. Decisions to provide gap funding are at the discretion of the department chair. Lack of an advisor will result in the Dismissal of the student from the PhD program.

## 7. ADVISORS

### 7.1 Academic Advisor

All PhD students must have an Academic Advisor in MechE. New students will be assigned an Academic Advisor at registration. If one is not assigned by the time of registration or if the student wishes to change their Academic Advisor, the student should consult with the PPM. As soon as an Academic Advisor has been assigned or changed, the student must provide that individual's name to the PPM.

### 7.2 Research Advisor

All PhD students must have a major doctoral Research Advisor by the end of their second term in the PhD program. The Research Advisor does not need to have a faculty appointment in MechE. When the Research Advisor is a faculty member in MechE, then it is expected that the Research Advisor will also be the Academic Advisor. A Research Advisor who is not a member of the department may serve under the following two conditions:

They are approved by the Department Graduate Committee.

A faculty member in MechE agrees to serve as a co-Research Advisor.

## 8. FINDING A RESEARCH ADVISOR

Some students enter the program with a pre-existing relationship and expectation to work with a specific Research Advisor, and that expectation is reciprocated by the Research Advisor. Most students, however, will use their first one or two terms in the program to define their specific interests in Mechanical Engineering and to identify a Research Advisor with a funded project through the first-year research placement program.

### 8.1 First-Year Research Placement Program

The objective of the research placement program is to identify a funded project in a research group in which both student and faculty advisor believe the student will thrive. This is accomplished through two main components: a seminar course (ENG ME 790), and a placement tracking course (ENG ME 791). Note that ultimately it is the student's responsibility to identify a Research Advisor and funded project. The research placement program is meant to facilitate this process.

ENG ME 790 *Graduate seminar in Mechanical Engineering* (1 credit). All first year PhD students are expected to enroll in ME 790 in the fall term; the class is graded on a P/F basis. This seminar course consists of a sequence of short lectures to allow faculty to provide an overview of their research. These talks will give opportunities for students to learn about different research methods and topics within MechE, and to interact with MechE faculty in a comfortable setting.

ENG ME 791 *Mechanical Engineering PhD Research Placement Program* (1 - 4 credits). All first year PhD students are expected to enroll in ME 791. All first year PhD students (both post-Bachelor's and post-Master's) are expected to perform three placements of six to seven weeks each. The first placement will be at the end of the fall term, the second and third will be in the spring term. *If you have already identified your intended Research Advisor, you may expect to do all your placements with that Research Advisor.* By the beginning of each placement period, students are expected to: (a) Identify faculty members/labs that will host their placements; (b) Submit a written description of their placement experience to the PPM.

## 9. PHD QUALIFYING EXAMINATION

The purpose of the PhD qualifying exam is to ensure that students have the capability of synthesizing information from courses and literature to form a deep understanding of the research field. The exam will evaluate students' technical communication skills in both written and oral format. Students are required to review a research paper in a specific research area, submit a written report, and give an oral presentation. All PhD students will take the qualifying examination during the Spring or Summer term of the first year. Note that a pre-requisite for taking the exam is that the student has identified a research advisor.

[Qualifying Exam Document](#)

[Qualifying Exam Form](#)

## 10. PHD CANDIDACY

A student is admitted to PhD candidacy upon successful completion of the Qualifying Examination. The candidate will receive a formal notification of PhD candidacy from MechE in accordance to the timeline communicated by the PPM.

Once entered, PhD candidacy will expire on its fifth anniversary. The student may need to petition MechE for an extension of time. The petition should include a plan or timeline for completion, an explanation of why the dissertation has not been completed on time, and confirmation from the research advisor and Dissertation Committee that the proposed plan is appropriate.

## 11. POST QUALIFYING EXAM MEETING

Students who have obtained PhD candidacy but not yet presented their Prospectus Defense are expected to meet annually with their Research Advisor and at least one other member of the MechE faculty who is expected to serve on their Dissertation Committee for a formalized check-in. The first

post-qualifying exam meeting should occur one year after a student obtains PhD candidacy.  
MechE [PhD Post Qualifying Exam Form](#)

## 12. PROSPECTUS

By the end of the third year in the program, it is required that a PhD candidate present an oral defense of their Dissertation Prospectus to their Prospectus Defense Committee. The purpose of the Prospectus defense is to determine whether the topic to be investigated is an acceptable research problem for the degree and whether the student is prepared to conduct the proposed research. The student is expected to have engaged in a substantive research effort under the mentorship of their Research Advisor before scheduling the Prospectus Defense so that the student can present a cogent description of the proposed dissertation project. However, the Prospectus defense should be completed before the more extensive phase of the actual research is undertaken. A complete package of information and necessary forms can be obtained from the PPM. In no instance will a student be allowed to present a Prospectus Defense until they have attained candidacy.

There are three steps leading to the Prospectus Defense:

1. **Determine the Prospectus Defense Committee, 1-2 months Before Prospectus Defense.** The student coordinates with the Research Advisor to identify at least two other suitable members of the Prospectus Defense Committee. After this point, the student asks these individuals if they are willing to serve on the Prospectus Defense Committee. Once this is complete, the student identifies a time for the Prospectus Defense.
2. **Finalize Date with MechE, Minimum Four Weeks Prior to Prospectus Defense.** Once the date and time of the defense is confirmed with the Prospectus Defense Committee, the student must now fill out the following information on the Prospectus Defense Form and submit the form to the PPM: title, date, time, location of the Proposal Defense, as well as the Prospectus Defense Committee member's names and signatures. The student must also submit an abstract to the PPM. The student is responsible for reserving a room for the presentation. Students may ask the PPM for room reservation assistance.
3. **Distribute Prospectus Document, Minimum Two Weeks Prior to Prospectus Defense.** The student must distribute the final Prospectus Document to the Prospectus Defense Committee and the PPM *two weeks* before the Prospectus Defense. The form, abstract, and written prospectus will then be submitted to the ACGP for approval. Once approved and sent to the PPM, the schedule of the oral presentation will be publicly distributed by MechE. The PPM will then forward the form to the student. It is the student's responsibility to bring the original form containing the Prospectus Defense Committee Members' signatures to the oral presentation.

Failure to meet these deadlines can result in postponement of the Prospectus Defense.

[MechE PhD Prospectus Defense Form](#)

### 12.1 Prospectus Defense Committee

The Prospectus Defense Committee will normally consist of a minimum of three College of Engineering tenured or tenure-track faculty and must include at least two faculty members from MechE. Membership of the Prospectus Defense Committee generally constitutes the nucleus of the Dissertation Committee and Final Oral Examination Committee. The composition of the Prospectus Defense Committee is to be reported to the ACGP by the student prior to scheduling the Prospectus Defense.

The Chair of the Prospectus Defense Committee is the student's Research Advisor. Occasionally scholars from outside the University serve on a Prospectus Defense Committee. In this case, a [Special Service Appointment \(SSA\) form](#) must be completed. A copy of the person's vitae and the completed form, with the approval of the ACGP, is submitted to the Associate Dean for Research and Graduate Programs. The student will be notified in writing of the approval or disapproval of the person requesting special appointment.

### **12.2 Dissertation Prospectus**

The Dissertation Prospectus should include:

- Title page
- A project summary of no more than 350 words
- A statement of the problem to be investigated
- Background information from prior work in the field
- Research design and methods
- Preliminary results (if available)
- Anticipated timetable for completion
- Bibliography
- Curriculum vitae

More details on these sections are provided on the accompanying pages of the PhD Prospectus Defense form. The preferred format is similar to that of proposals submitted to a Federal Agency. There is a 25-page (single-space) limit on the scientific portion of the proposal. This includes tables and figures but does not include the bibliography. Please refer to the ["Research Guide For the Writers of Theses and Dissertations."](#)

### **12.3 Oral Presentation of the Prospectus**

A public oral presentation of the Prospectus must be made in which the student describes the proposed research and demonstrates their preparation to complete the proposed research and write a dissertation.

As Chair, the Research Advisor should begin with an introduction of the PhD student. The introduction should include a brief description of the student's academic background. The student should restrict the length of the presentation to approximately three quarters of an hour. During this period, questions may be asked by Prospectus Defense Committee Members and the audience. The Chair should guard against digressions and inappropriate questioning during the presentation. Following a public question period, the audience members are dismissed for private questioning of the student by the Prospectus Defense Committee. Following this further questioning, the student is dismissed and the Prospectus Defense Committee remains to complete its assessment of the Prospectus document and the presentation.

### **12.4 Assessment of the Prospectus Defense**

The Prospectus Committee is charged with assessing the appropriateness of the problem and the student's preparation based on the written dissertation proposal and the oral presentation. The Prospectus Defense Committee must decide if the student passes, passes with conditions, or fails. The Prospectus Defense Committee may determine that the student needs additional courses and/or suggest revisions to the dissertation topic goals and approaches to the solution. If there are required revisions to the written proposal, or if additional course work is required, such conditions must be

appropriately documented and attached to the PhD Prospectus Defense Form.

### **12.5 Reporting of the Prospectus Defense Outcome**

The student's Research Advisor as Chair of the Prospectus Defense Committee will complete the "Prospectus Defense Results" section on the "PhD Dissertation Prospectus Defense" form. If the student is required to meet certain conditions, those conditions should be listed on a separate sheet and attached to the form. Those conditions should also contain time frames for completion. The Chair then signs the form and forwards it to the PPM for signature. MechE will confirm the results of the Prospectus Defense to the candidate in writing. If the results indicate that more work must be done and/or that specific conditions must be met, these conditions will be indicated in the letter to the student.

### **12.6 Registration After Passing Prospectus Defense**

Post-prospectus PhD candidates will enroll for research credits of dissertation (ENG ME 991). Once all credit requirements have been satisfied, post-prospectus PhD candidates must enroll for a minimum of two dissertation credits (ENG ME 991) per term until completion of the degree. Registration each term allows the student to use all academic facilities of the University and entitles PhD candidates to audit one course per term, excluding summer term, at no charge provided they have met the credit requirements. *Failure to register for two consecutive academic terms without having been granted authorized Leave of Absence will result in termination of degree status.*

## **13. POST-PROSPECTUS COMMITTEE MEETINGS**

Following completion of the Prospectus Defense, *each PhD student is required to meet with their Prospectus Defense Committee at least annually until the dissertation is complete.* Over the time between the Prospectus Defense and the Final Oral Examination, it is expected that the Dissertation Prospectus Defense Committee will transition into the Dissertation Committee. At each of these annual meetings, the PhD student is expected to present an update on the research progress that they have performed towards the dissertation since the last meeting. The Prospectus Defense Committee is expected to engage the student in discussions about the research in ways that will guide the student's progress and preparation for the dissertation.

[Post Prospectus Committee Meeting Form](#)

## **14. FINAL ORAL EXAMINATION AND DISSERTATION**

Students shall present themselves for a Final Oral Examination in which they must defend their dissertation as a worthy contribution to knowledge in their field and demonstrate mastery of their field of specialization as related to the dissertation.

There are four steps leading to the PhD Dissertation Defense:

- 1 Submit the PhD Dissertation Defense Abstract and Determine the Dissertation Committee, 1-2 months Prior to Dissertation Defense.** The candidate must submit their abstract, maximum 350 words, to their Research Advisor for approval. The student coordinates with the Research Advisor to identify at least three other suitable members of the Dissertation Committee (typically the Prospectus Defense Committee plus one more). After this point, the student asks these individuals if

they are willing to serve on the Dissertation Committee. Once this is complete, the student identifies a time for the Dissertation Defense.

- 2 **Apply to Graduate, Prior to Deadlines Stated on the College of Engineering Website.** Please see deadlines and apply to graduate [here](#).
- 3 **Finalize Date with MechE, Minimum Four Weeks Prior to Dissertation Defense.** Once the date and time of the defense is confirmed with the Dissertation Committee, the student must now fill out the following information on the Dissertation Defense Form and submit the form to the PPM: title, date, time, and location of the Defense, as well as Dissertation Committee member's names and signatures. The student must also submit an abstract to the PPM. The student is responsible for reserving a room for the presentation. Students may ask the PPM for room reservation assistance.
- 4 **Provide Committee with Dissertation Document, Two Weeks Prior to Dissertation Defense.** The PPM is responsible for identifying a suitable Chair for the Dissertation Defense and notifying both the Chair and the student of the assignment. Once the student has been notified of this, the student must provide a copy of their dissertation to the Chair for review. The form must be signed by the Chair as an indication of their willingness to serve as Chair. The form and abstract will then be submitted to the ACGP for approval. Once approved and sent to the PPM, the schedule of the oral presentation will be publicly distributed by MechE. The PPM will then forward the form to the student. It is the student's responsibility to bring the original form containing the Dissertation Committee Members' signatures to the oral presentation.

Candidates must adhere to the current deadlines for completing the Final Oral Examination and submitting their Dissertation.

#### [PhD Final Oral Examination Form](#)

To be allowed to defend a completed PhD dissertation a student must (a) be a PhD candidate, or (b) have passed the Prospectus defense at least six months prior to the dissertation defense. These are the minimum requirements of the College of Engineering. PhD students should check with the PPM for any additional rules or restrictions.

#### **14.1 Final Oral Examination Committee**

The Final Oral Examination Committee is typically the Dissertation Committee plus an Exam Chair assigned by the PPM as someone who may be reasonably regarded to be impartial to the outcome of the exam. The chair may not be a member of the Dissertation Committee, nor be otherwise involved in the dissertation research in any way. The Dissertation Committee is typically the Prospectus Defense Committee plus one more member. It is the candidate's responsibility, in conjunction with their Research Advisor, to identify members of the Dissertation committee. *The minimum Final Oral Exam Committee size is five: the major Research Advisor (1<sup>st</sup> reader), three additional readers, and an examination Chair.* A minimum of two of the members of the reading committee must be (tenured or tenure-track) faculty in MechE.

Dissertation Committee members from outside the University must be approved by the College using the [Special Service Appointment form](#). The completed form and a copy of the person's vitae, with the approval of the ACGP is submitted to the Senior Associate Dean for Academic Programs. The student will be notified in writing of the approval or disapproval of the person requesting special appointment. If this process was followed during the Prospectus Defense, the information should already be in the student's file and will not need to be repeated. However, if this is a new member or for some reason the process was not followed at the time of the Prospectus Defense, it will need to be done prior to scheduling a

date for the final defense. This is a College of Engineering rule that serves as a minimum requirement for MechE.

#### **14.2 PhD Dissertation**

Students are expected to read and follow the latest edition of the [Guide for Writers of Theses & Dissertations](#). Although students will have an opportunity to make final revisions to the dissertation and abstract after their Final Oral Examination, they should not regard their Final Oral Examination version as a “rough draft.” For example, this version of the abstract is the version circulated to the College of Engineering, members of the Dissertation Committee and the Office of the Provost and Executive Vice President. A final version of the abstract is submitted with the definitive version of the dissertation for publication in *Dissertation Abstracts International*.

Dissertations are public documents. The student’s final work is a significant contribution to their field of study. In some cases, an embargo may be necessary due to sensitive material in the document. It is possible to request an embargo on a dissertation restricting its public availability. Students should follow the directions on how to request an embargo in the above-mentioned guide.

#### **14.3 Final Oral Examination**

The Final Oral Examination is a public presentation of the candidate's dissertation. The presentation should clearly define the problem, describe the method(s) used to solve the problem, report results and establish significance of the results. The candidate should contact the Department PhD Program Manager for *current* forms, guidelines, and deadlines.

The purpose of the Final Oral Examination is to ensure that the dissertation constitutes a worthy contribution to knowledge in the candidate's field and that the candidate has attained mastery in their field of research specialization.

#### **14.4 Conduct of the Final Oral Examination**

No Final Oral Examination may begin unless all members of the Final Oral Examination Committee, as listed on the “Final Oral Examination” form are present. It is the Chair's responsibility to enforce this requirement, who may exercise discretion if immediate exigency requires it (for example, by finding a substitute for a single missing member.) The faculty Research Advisor or Committee Chair should introduce the candidate and include a brief academic background description.

The candidate should restrict the length of the presentation to approximately 50-60 minutes. The candidate's conduct should be of a professional manner, and any handouts, slides etc., should be neatly prepared. During this period, questions of clarification may be asked by the Final Oral Examination Committee members or the audience.

The Chair should guard against digression and inappropriate questioning during the presentation. It is the Chair's responsibility to ensure the student's presentation is given the respect it deserves by not allowing Committee or audience members to have side discussions.

Following a public question and answer period, the audience should be dismissed by the Chair. The Committee may wish to ask additional questions of the candidate at this time. Following this additional questioning by the Committee, the candidate should be excused so the Committee may complete its assessment of the Defense and Dissertation.

#### **14.5 Assessing of the Final Oral Examination**

The Final Oral Examination Committee is charged with assessing the completeness of the research, contribution to knowledge, and the candidate's mastery of their research area, based on the written dissertation and the oral presentation. The vote may be ballot or voice. A unanimous vote is required for a candidate to pass. It is the Chair's responsibility to call the candidate back after the Committee has reached a decision. The Chair will advise the student of the Committee's decision. At this time the candidate should be advised of any changes that must be made to the final title, abstract, or dissertation document.

#### **14.6 Reporting the Results of the Final Oral Examination**

The "PhD Final Oral Exam Form" must be completed at the examination, with specific indication of whether the title abstract and dissertation are acceptable as submitted. It is the Chair's responsibility to see that this form is completed and signed. Any required revisions are to be noted on the form and a separate piece of paper indicating what is to be done is then attached to the form. Time frames should be included in the listing. Committee members should sign off on the "PhD Final Oral Examination" form at this time, *but will refrain from signing the dissertation Approval page until all conditions have been met.*

Any revisions must be completed as soon as possible and in accordance with the Committee's requirements. If all requirements are acceptable, the Approval page of the dissertation is to be signed by all members of the Dissertation Committee.

The Chair delivers the signed "PhD Final Oral Examination" form and any attachments to the PPM. It is the responsibility of the PPM to ensure that all necessary information is recorded with the University.

#### **14.7 Dissertation Approval**

Final approval of the title, abstract and dissertation, if not given at the time of the examination, will be indicated by the signatures of all members of the Dissertation Committee on the Dissertation Approval page.

It is the student's responsibility to deliver copies of the Dissertation to the major Research Advisor and to the Department to satisfy final department requirements. At this point the student will complete the "[Boston University Mugar Memorial Library Thesis and Dissertation Approval](#)" Form, and the Department's Associate Chair for Graduate Research Programs will sign approval.

It is the student's responsibility to visit the Library to have the Approval page verified BEFORE submitting it to the Dissertation Committee for signatures. The PPM will retain one copy of the Approval page and Title page for recording purposes. Doctoral candidates are expected to submit the significant results of their research to recognized journals for publication

#### **14.8 Library Submission**

It is the PPM's responsibility to ensure that the Approval page for the dissertation has been signed by all members of the Dissertation Committee. The student's record and account balances should be checked at this time.

After submitting the Approval page and title page to the PPM, the student must submit their thesis electronically to Mugar Library. The information on how to do this may be found here: <http://www.bu.edu/library/guide/theses/>. The approval page (signature page) must be approved by the library before the Dissertation Committee members sign it as it must conform to their approved

template.

It is the responsibility of the Graduate Programs Office to ensure that the University records reflect that the candidate has completed all necessary requirements for their PhD degree and that the student's name appears on the official graduation list

## **15. GRADUATION**

The student must inform the Graduate Programs Office (GPO) of their intent to graduate. The Department in conjunction with the GPO will advise the student of the graduation proceedings. It is the student's responsibility to inform the GPO of their current mailing address and email address. See the GPO's website on how to apply to graduate: <https://www.bu.edu/eng/current-students/grad/current-students-2/graduation/>

## **16. FUNDING**

All PhD students must be funded through some combination of Research Assistantship (RA), Departmental Distinguished Fellowship, Dean's Fellowship, Department Fellowship, or external fellowship for the duration of their PhD studies. All incoming PhD students on Research Assistantships or Departmental Distinguished Fellowships will receive the same monthly stipend at the base rate. Once achieving candidacy, students will receive a stipend increase of 10% above the current base rate at the start of the following academic year.

### **16.1 Research Assistantships (RAs)**

A PhD student receives an RA to engage in research under the supervision of their Research Advisor. RAs are expected to engage in research full-time, with time allowed to fulfill other degree requirements (e.g. take courses or participate in teaching) during the academic year. Students funded on an RA may receive up to 16 credits/term of tuition coverage for graduate courses applicable toward their degree.

### **16.2 Departmental Fellowships and Dean's Fellowships**

The Department and College have a limited number of Departmental Distinguished Fellowships and Dean's Fellowships to support first-year PhD students. Students receiving one of these fellowships must remain in good academic standing. While receiving this fellowship, students are required to engage in research under the supervision of a faculty member and may receive up to 16 credits/term of tuition coverage for graduate courses applicable toward their degree.

### **16.3 External Fellowships**

MechE encourages PhD students to seek external fellowships from reputable sources that will enhance their careers and provide resources toward their tuition and stipends. In the event that an external award is less than the stipend rate offered by an RA or Departmental Distinguished Fellowship, the College will supplement to make up the difference. MechE will also encourage our students to seek external fellowships by providing recipients of these fellowships with additional resources for academic enrichment (e.g. books, supplies, travel to conferences and workshops) while they are graduate students at BU.

## 17. TUITION

Graduate Tuition and Fees for full-time and part-time students are listed on the GPO's webpage, [found here](#).

### **17.1 Requirement of Medical Insurance**

Students enrolled for 3/4 time or more and all international students must enroll in the University's medical insurance plan unless proof of other comparable health insurance is provided. If a student has other coverage and fails to submit a Waiver to Student Accounting Services by the deadline, that student is still obligated to pay the medical insurance charge. The University cannot accept medical insurance waivers based on coverage by an insurance company outside the United States. For additional information visit <https://www.bu.edu/studentaccountingservices/resources/medical-insurance/>.

## 18. ADMINISTRATIVE REQUIREMENTS

### **18.1 Registration**

All students are required to register each academic term (Fall, Spring, and Summer) unless on an approved Leave of Absence. A continuing student is required to register prior to the registration deadline, or a late fee will be assessed. If a student needs to be registered for either of the summer terms, it is their responsibility to do so. Please see Boston University (BU)'s registration deadlines and information: <https://www.bu.edu/reg/calendars/term/>.

PhD students registering for research credits should register for ENG ME 900 (research) if they have not yet passed their Prospectus Defense and ENG ME 991 (Dissertation Research) if they have passed their Prospectus Defense. Both ENG ME 900 and ENG ME 991 are graded Pass/Fail.

### **18.2 Full-Time Status**

To have status as a full-time student at Boston University, a student must be either enrolled in at least 12 credits in the current term OR be certified as full-time by the PPM by the registration deadline. A student may attain full-time status when enrolled in fewer than 12 credits if the student is substantively engaged in research (i.e. funded on an RA, Departmental Distinguished Fellowship, or External Fellowship) and/or teaching training. Full-time status is examined for every student every term; hence, in any term in which the student seeks full-time status, they must meet the 12-credit minimum or be certified as full-time by the PPM. All first year students and all international students supported on non-service stipends must enroll in 12 credits to meet the full-time requirement.

A typical course load for a first year post-Bachelors PhD student funded on a Distinguished Department Fellowship or Dean's Fellowship is three courses per term. Most PhD students will be engaged as Graduate Student Teachers for two terms of their second or third year in the program. While there is no formal requirement for the number of courses completed prior to taking the PhD Qualifying Exam, post-BS students typically take 3 per term, and thus have completed the majority of their required courses prior to taking the Qualifying Exam. Taking three courses per term in the first year provides students the preparation and time to succeed in the major requirements of second year PhD students (research, Qualifying Exam, teaching training) and avoids delaying the completion of all of their structured course requirements.

A typical credit load for a student funded on an RA is eight credits per term until the student completes

all credit requirements for the PhD degree. Some students may, in consultation with their Research Advisor, choose to enroll in more than eight credits because they want to take more than two courses in a given term. Normally, no more than four (4-credit) courses should be taken concurrently. Following completion of all credit requirements for the PhD degree, the student enrolls in two research credits or dissertation credits per term until they successfully complete the Final Oral Examination and submits their dissertation to the library.

The only exception to the credit requirements stated above is an authorized Leave of Absence. *International students must have full-time status to meet visa requirements.*

### **18.3 Residency Requirement**

Each student must satisfy the minimum residency requirement of two consecutive regular terms of full-time graduate study at Boston University. Full-time study in this context is a full-time commitment to the completion of degree requirements as determined by the Associate Dean for Research and Graduate Programs. To graduate, students must be registered as full- or part-time students in the term in which they complete degree requirements and in the preceding term.

### **18.4 Leave of Absence or Withdrawal**

Normally, students must register for each academic term (excluding summer term) until the completion of all degree requirements. If a student requires a leave of absence, it is the student's responsibility to submit a completed [Withdrawal or Leave of Absence Form](#) to the GPO. Leave of Absence and Withdrawal policy is described here: <https://www.bu.edu/academics/eng/policies/graduate-policies/withdrawal-leave-of-absence-and-reinstatement/>

## **19. POLICIES AND RESOURCES**

[Boston University Diversity Statement](#) [Vacation Policy for PhD students](#)

[Sick Leave Policy for PhD students](#)

[Childbirth and Adoption Accommodation for PhD Students](#) [Sexual Misconduct / Title IX Policy](#)

[Withdrawal, Leave of Absence, and Reinstatement Policy](#) [Auditing Courses Policy](#)

[Complaint Procedures in Cases of Alleged Unlawful Discrimination or Harassment](#) [Disability Accommodation](#)

[Equal Opportunity/Affirmative Action Policy](#)

[Student Grievance Procedure in Cases of Alleged Disability Discrimination](#)

If you have questions about the policies above, please contact:

COE Director of Graduate Programs Office at [enggrad@bu.edu](mailto:enggrad@bu.edu) or 617-353-9763.

### **19.1 Laboratory Injuries – Coverage for PhD Students**

It is important to seek treatment promptly for any laboratory injury or exposure. If the injury or exposure does not require immediate transport for emergency care, PhD students should contact the University's Research Occupational Health Program at 617-414-ROHP (7647), or report to 72 E. Concord St., Evans 825, which is staffed by specially trained nurse practitioners. ROHP provides medical attention and coordinates aftercare at ROHP for laboratory injuries and exposures without any cost to PhD students.

If you have questions about costs related to laboratory injuries and exposures, please contact ROHP by phone (617-358-7647) or email ([rohpbu@bu.edu](mailto:rohpbu@bu.edu)) ROHP. Complete information and procedures for reporting can be [found here](#).

## 20. DIRECTORY

### Department of Mechanical Engineering

Emery Dutton Academic Program Coordinator	<a href="mailto:bumeche@bu.edu">bumeche@bu.edu</a>
Anna Masland Director	<a href="mailto:amasland@bu.edu">amasland@bu.edu</a>
Keith A. Brown Associate Chair for Graduate Programs	<a href="mailto:brownka@bu.edu">brownka@bu.edu</a>
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### College of Engineering (Graduate Programs Office, Dean's Office)

Stacey Herman Director, Graduate Programs Office	<a href="mailto:smherman@bu.edu">smherman@bu.edu</a>
Solomon Eisenberg Senior Associate Dean for Academic Programs	<a href="mailto:sre@bu.edu">sre@bu.edu</a>
Elise Morgan Dean ( <i>ad interim</i> ) College of Engineering	<a href="mailto:efmorgan@bu.edu">efmorgan@bu.edu</a>