

All PhD students must adhere to and meet the PhD degree requirements as set forth by the College of Engineering (COE) and the Division of Systems Engineering (SE).

[Download SE PhD Handbook](#)

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PhD Degree Requirements

General Guidance

Post-Masters PhD students are strongly encouraged to take the MS core courses before taking the Qualifying Examinations and take two concentration area courses to help with their research.

Post-Masters 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, a B or better, etc.). The student is required to fill out a petition form and have it signed by

his/her advisor and Division Associate Head before submitting it to the Graduate Programs Office for processing.

Only grades of P, F, or J will be assigned to research/dissertation credits.

Program Completion Schedule

- Course requirements should be completed as early as possible.
- After all credit requirements have been fulfilled, PhD students are permitted to audit one course per semester in order to continue to take advantage of course offerings.
- The SE Qualifying Examination consists of two parts: a written exam and an oral exam. The Qualifying Examination is taken in early summer (usually April or May) following the first academic year. Schedules will be set by the SE Graduate Committee and communicated to students in advance.
- The Prospectus Defense should be presented by the end of the sixth semester from matriculation.
- PhD students have five years to complete the dissertation after becoming a PhD candidate. Meetings with the dissertation committee must occur at least annually following the Prospectus Defense, and must be documented by submission of the PhD Progress Report form to Division Graduate Programs Manager.

PhD Program Overview

SE PhD Program Requirements

Post-bachelor's PhD Masters Requirements

Post-Bachelor's PhD students must complete the Masters requirements and declare the Master's degree on completion of the Prospectus Defense. [Click here for the Masters Requirements.](#)

PhD Program Learning Outcomes

The Division Program Learning Outcomes are designed to provide a given set of courses and other requirements so that students may acquire the knowledge, skills, habits of mind, and attitudes necessary to engage in a systems engineering related career on graduation.

SE PhD Program Learning Outcome

1. Demonstrate advanced quantitative and analytical foundations in systems, control and decision theory, optimization, and stochastic processes.
2. Formulate research problems, advance the state of the art in particular topics, and develop rigorous innovative methods and tools to model, design, analyze, optimize and manage human-made and physical systems within a broad array of applications.
3. Demonstrate proficiency in written and oral communication skills and the ability to disseminate research findings through presentations and in peer reviewed publications.

Policies and Deadlines

College of Engineering Deadlines

- Registration Deadlines: Failure to register for classes by the published registration deadlines may cause your appointment to be terminated and/or delay payment of your weekly stipend.
- [Graduate Program Deadlines.](#)

[Registration and Attendance](#)

[Course, Grade, and Degree Policies](#)

Childbirth and Adoption Accommodation for Full-time PhD Students

[Click to view the policy in full.](#) Please submit the Childbirth and Adoption Accommodation for Full-Time PhD Students Notification Form to the Graduate Programs Manager.

[Intellectual Property Policy Agreement](#)

[Student Bereavement](#)

[Student Records](#)

Satisfactory Academic Progress for PhD Students

The College of Engineering is committed to five full years of financial support for graduate students in the CoE PhD program who maintain Satisfactory Academic Progress. This support will be in the form of Teaching Fellowships, Research Assistantships, or Graduate Fellowships.

Funding beyond five years is generally provided (but not guaranteed) to students who are working productively toward the PhD degree. The following achievements are required to maintain Satisfactory Academic Progress:

- Students must complete the required coursework with a B average (GPA of 3.0) or better and pass the PhD Qualifying Exam. Thereafter, they need to complete a Dissertation Prospectus and a Dissertation. Details on the course requirements and qualifying exams are found on the respective division web sites.

Students are expected to find a research home by the end of their second semester. A student can either join a research group directly on their arrival

or can go through a rotation program through different laboratories. To maintain satisfactory academic progress, students must secure a funded position in a research group after two rotations (at least three months each), by the end of the second semester. Inability to find a research home may lead to removal from the program. Students not finding a research home may not be supported by the Division over the summer; summer support is provided on exceptional circumstances and discussed on a case-by-case basis. Students must show adequate effort in securing a research home. In rare cases, a student is able to identify a faculty willing to serve as a research supervisor, but neither the faculty nor the student is able to secure extramural funding for the second year. This student can petition and request additional funding from departmental or division resources, pending availability of funds. Such a request will need to convey to the Division Head that the student has found a research advisor willing to supervise the student and that the advisor and/or student have a concrete plan to secure extramural funding sources following the additional academic year. Decisions to support this request are at the discretion of the Division Head. If approved, and no such funding has emerged after the second year, these students will be deemed as not making satisfactory academic progress and they may not be permitted to complete their PhD studies.

After joining a laboratory in accordance with the conditions above, students register for research credits each semester and summer they work in that laboratory. If the supervisor feels the student is not making satisfactory progress, the supervisor will provide a 4-month warning letter (equivalent to a semester or summer). If the progress remains unsatisfactory, the faculty will dismiss the student from their laboratory. The student must then either find an alternative funding source from an individual faculty member or leave the program. After dismissal, the student has one summer or academic semester to find alternative support. During this period, the department or program is under no obligation to find support for the student but may choose to do so, at the discretion of the department/program leadership.

Any egregious violation of academic or research ethics may result in immediate dismissal from the program at any stage with no opportunity for re-admission.

University Academic Standards and Graduate Policies

Boston University's Academic Conduct Code is designed to assist in the development of a supportive and productive learning environment. It is both a description of the University's ethical expectations of a student as well as a guarantee of the student's rights and responsibilities as a member of a learning community. The Code provides clarity related to policy and procedure regarding academic conduct.

The policies listed below represent variations or additional stipulations affecting certain general [University policies](https://www.bu.edu/academics/eng/policies/graduate-policies/) (<https://www.bu.edu/academics/eng/policies/graduate-policies/>).

SE PhD Program Completion Schedule

Program Completion Schedule

Register for
classes

Before the start of the semester

Arrange Fall
Research Rotation

By October 1 of the first semester
after matriculation

Arrange Second
Research Rotation

Before the start of the second
semester after matriculation

<u>Obtain a research advisor</u>	Before the end of the second semester of matriculation (April 30).
<u>Mathematics Requirement</u>	Must complete before taking the Qualification Exam
<u>Subject Qualifying Examination</u>	Held in May between Commencement and Memorial Day. Must pass within the first three semesters.
<u>PhD Candidacy</u>	Official Candidacy is achieved after passing the qualifying examination and completing the mathematics requirement no later than the end of the fifth semester. Both the post-bachelor's and post-master's degree programs must be completed within five years of the student's acceptance into PhD candidacy.
<u>Meet with Major Advisor</u>	Prior to the fall semester each year, complete the Annual Progress Report. Set up research project for prospectus.
<u>Advanced RCR Requirement</u>	Prior to the Prospectus Defense, PhD students must complete the Advanced RCR requirement, including the online module through CTI and the RCR course. Information about the modules and a registration link are posted here.

Scheduling of
Prospectus
Defense

See section on Prospectus Defense.
A student is required to present a
Prospectus Defense within two
years of attaining candidacy. **No
student will be allowed to present
a Prospectus who has not become
a candidate in the PhD Program.**

Declare MS
Degree

Post bachelor's PhD students
should declare their MS Degree
(see MS Handbook for MS
program planning sheet.).

Diploma
Application

Due by November 1 for the
January graduation date.
Due by March 1 for the May
graduation date.

Due by July 1 for the August
graduation date.

Dissertation
Abstract

See section on Final Oral
Examination, including Last Day to
hold Final Oral Examination and
Approved and signed Dissertation
due

Library
Submission

See Library Submission

Research Opportunities in SE

Most students choose to do their research with a faculty member from the Division of SE or affiliated research centers. To find out more about specific research programs, please visit the individual faculty member webpages via the SE, Center for Information and Systems Engineering (CISE), or faculty website. Students may select to do their research with a faculty member outside the Division of SE; in that case, students must find a co-advisor within the Division of SE.

Finding a Research Advisor and Project

A major requirement for the PhD degree is a research-based dissertation. Each student is responsible for finding a research project, conducting scientific studies under the guidance of an approved faculty member, presenting the proposal and results to the general scientific community in a public defense and finally turning in a dissertation to be bound for the library and the SE Division.

Occasionally, students enter the program with a specific research advisor in mind and may even plan to work on a specific project. The majority of students, however, will utilize the first two semesters to determine what their specific interests are in the field of systems engineering and identify the opportunities for funding in a professor's lab. PhD students typically connect with their research advisors through the mechanism of their lab rotations. In general, the procedure involves three steps: (1) doing rotations and deciding upon a research area; (2) joining a specific lab; and (3) developing a dissertation research project. A minimum of two rotations must be completed by the end of the first academic year. Research Assistant (RA) positions should begin May 1.

Students can gain information about steps (1) and (2) through coursework, informal discussions with faculty and, most importantly, the lab rotations. An easy way to find out what is available is to check the list of current Faculty Research Interests and SE Laboratory and Research Center Descriptions, available on the SE website.

Another valuable way of learning more about specific research opportunities is to speak with other graduate students who are currently working in the various SE faculty labs. The best measure for learning about working in a specific lab is to make an appointment to speak with the faculty member in charge of a lab you are interested in. Some useful questions to ask faculty are:

1. What projects is your research group currently working on, and what projects are planned for the near future?

2. What mathematical and programming skills are required to work in your research group? Is the research mainly theoretical, experimental, or both?
3. What are the main funding mechanisms in your lab, and will there be the possibility of funds for a new graduate student?
4. What expectations does the faculty member have of graduate students?
5. What opportunities for professional growth do you offer in your research group?

Once a student finds a research opportunity and has the consent of a faculty member to be his/her advisor, the process of developing a research project begins.

Academic vs. Research Advisors

Each new student is assigned an academic advisor when entering the program. Incoming PhD students will be notified about their advisor prior to registration by the Graduate Programs Manager. The student's academic advisor can provide general information/guidance and help the student to complete his/her course registration for the first year.

Who Can Be A Research Advisor

For PhD students, any full-time member of the SE faculty, or any affiliated or adjunct faculty member who has an appointment with the Division, is eligible to serve as a research advisor.

Research Rotations

All PhD students are required to participate in laboratory rotations and enroll in SE 900 Research during their first academic year. This provides the students an opportunity to gain exposure to more than one research area and to help in identifying a good match with a research advisor. After finding a lab, the research advisor will be in charge of the student's research project

and will help coordinate the student's schedule towards fulfilling all of the graduation requirements. PhD students are expected to choose a research advisor no later than the end of the second semester of matriculation (April 30 deadline). When a student chooses his/her research advisor, that person automatically becomes the student's academic advisor as well.

The following is an outline of the administrative issues and policies regarding SE 900:

- All PhD students must register for SE 900 with the appropriate professor in their first and second semesters of matriculation in SE.
 - Students will register for a minimum of four credits in the fall and four or more credits in the spring semester, for a minimum of eight credits, total. The course is graded Pass/Fail.
 - To register, download a [Directed Study/Independent Coursework Petition Form](#), fill out the top portion and draft the detailed summary, send it to the faculty member supervising your rotation for their review/signature, and then send the signed form to the Graduate Programs Manager
 - The Graduate Programs Manager will register you for the course on receipt of the completed form.
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- Rotations generally last 6-8 weeks.
 - To do a rotation with a faculty member who does not have a primary or secondary appointment in SE, students must petition and receive permission from the SE Graduate Committee using the [SE petition form](#) (available online).

PhD Funding Information

Funding Information

Students receiving any form of financial support for graduate studies are not permitted additional employment without prior written approval from both

the student's advisor and the Graduate Committee. These forms of financial support include BU Fellowships (Dean's, SE, GTF, Photonics, etc.), Training Grant Fellowships, Doctoral Research Fellowships and other external Fellowships (NSF, NIH, foreign government fellowships or other foundations). First-year PhD students with one academic-year BU Fellowships (Dean's, SE, GTF, etc) should secure a funded Doctoral Research Fellowship no later than the end of their first academic year (April 30).

PhD Stipend Levels

- All incoming PhD students on a fellowship will receive the same monthly stipend at the base rate

Intellectual Property Policy (IPP) Agreement

Students who receive support from sponsored research programs or who make significant use of BU funds and facilities are required to sign the BU Intellectual Property Policy Agreement. Seek counsel with your faculty advisor about this policy pertaining to intellectual property. A signed form is required before a student can be paid. [Intellectual Property Agreement](#).

Service and Non-Service Stipends

Service Stipends (DRFs, GTFs) are paid weekly.

Non-Service Stipends (DFs and Materials Distinguished Fellows) are paid monthly on the 4th Friday of the month.

Non-Service Stipend Recipients, Tax Information

You will not receive a W-2 for your non-service stipend, which includes the Dean's Fellowship, Clare Boothe Luce Fellowship, or Non-Service Division Fellowships. This will apply to your Fall and Spring earnings, so keep this in

mind for your taxes for both years. [Click here for further information and click again on “4\) Financial Activities and Services Training \(FAST\) sheets”](#). [Click here for Payroll Resources information](#)”.

International Students, Tax Information

Students earning income through a position on-campus must note the following tax requirements. Failure to do so can jeopardize the student’s status in the U.S., not just their employment. International Students understand that their visa and work-permission status must be up to date before they can begin work. They further understand US visa regulations prohibit any additional work, either on or off campus, during the duration of the DRF appointment.

Students from countries that have tax treaties with the United States may be eligible to exempt a portion of their earnings from taxes. **If you are an international student working on campus**, whether you are a new student employee or have worked in the university before, please take the time to follow our [International Taxation Set-Up Procedure](#) to ensure that you are being taxed appropriately on your income.

Summer Stipends and Tax Withholding

PhD students must register for MS 900S or MS 991S for the Summer I term (8 credits) prior to the start of the summer session.

Students funded on fellowships other than NIH will have FICA taxes withheld from their paychecks during the summer (May, June, July and August). [The Student Employment Office outlines the FICA tax withholding and rebate criteria on their website](#).

US Citizens and Permanent Residents

US Citizens and Permanent Residents understand that the Doctoral Research Fellowship is a form of financial aid and it may affect eligibility for certain

need-based funds, including but not limited to: Direct Loans, Federal Work-Study, and Perkins Loans. Students also understand that if they have already received need-based funds prior to the DRF appointment, terms of their financial aid package may be adjusted.

Doctoral Research Fellowships

Students with one-academic-year BU fellowships (Dean's, SE, Photonics, etc.) should secure a funded Doctoral Research Fellowship no later than the end of their first academic year (April 30).

DRFs are offered by individual faculty members with sponsored research grants. A DRF is a member of a research group in a laboratory or center. The position offers close association with members of the faculty and is a very effective arrangement for graduate study. Work on the dissertation project is normally part of a DRF's assignments. DRFs are expected to work full-time, with time allowed for courses during the academic year.

DRF and academic obligations constitute a full-time commitment. In exchange for a per-semester support stipend, students agree to work a minimum of 20 hours/week if the semester falls within the academic year, and 39 hours/week if it falls within the summer term. Students must have prior written approval from their research advisor and the Associate Division Chair before undertaking any other employment, either inside or outside the University. Because this appointment requires service to the University, students should be aware that taxes may be deducted from the stipend portion of their award. Students also agree to sign the University's standard patent agreement form. Students further understand that as a DRF, they will receive a tuition scholarship for credits leading toward their degree during the period of employment. Students will obtain written approval from their advisor if they wish to register for coursework in excess of 10 credit hours per semester. Students understand they must register for each semester in a timely manner and complete required payroll forms as requested. Students also understand that they may only work under one DRF at a time.

Doctoral Research Fellows are paid weekly over 17 weeks in the Fall and Spring and over 18 weeks in the Summer. Fall semester paychecks are issued from September through December; Spring semester paychecks are issued from January through April; Summer semester paychecks are issued from May through August.

Semester Payroll Deadlines

- Fall Payroll: Continuing students must be registered and have a DRF by July 1 in order to be set up for the Fall semester on time.
- Spring Payroll: Students must register by December 1 and have a DRF commitment by November 1 in order to be set up for the Spring semester on time.
- Summer Payroll: All students must register for Fall by April 1 and have a DRF commitment in order to be set up for Summer Payroll on time. (PhD students graduating in September must register for 2 credits of research in SUM1.) First Year Students must have a research advisor and funding secured by April 30.

Semester Payroll Set Up

The Division Graduate Programs Manager will coordinate with other department managers and Payroll Coordinators to make sure that student funding is set up each semester prior to the account settlement date. In order to be set up on Payroll, students must register according to the Student Payroll-Related Deadlines listed above.

First Year PhD students must notify the Graduate Programs Manager when a research advisor and summer funding is confirmed. If the information is not communicated, the student will not be set up on Student Payroll.

- Students must register according to the Student Payroll-Related Deadlines listed above
- Setting-up the student on payroll; Coordinated by the Division Graduate Programs Manager in conjunction with the Department

Grant Administrator overseeing the grant that funds the student's stipend, based on information provided by the student and Research Advisor.

- Settling the student's tuition account by the Graduate Programs Office.
- Settling the student's health insurance payment by the Graduate Programs Office

Tuition

DRFs supported full-time by a faculty's sponsored research grant typically receive tuition coverage. Eligible DRFs receive 8-10 credits of tuition, applicable to their degree, each semester they serve as a DRF during the academic year

Laboratory Injuries – Coverage for PhD Students

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 (rohp@bu.edu) ROHP. Complete information and procedures for reporting can be found [here](#).

SE PhD Travel Award

SE has a limited number of Student Travel Awards to defray the cost of attending a conference or other worthwhile meeting related to a student's research. The student must be an author or coauthor of a paper accepted for presentation and the paper must be included in the conference/meeting program. The student must also be the one who presents the paper at the conference/meeting.

Every Division student who has passed their PhD qualifying exam is eligible for a Student Travel Award. You can request an award before the travel event occurs by contacting your advisor, who can then nominate you by sending a message to the Interim Associate Head, Professor David Starobinski. The message should be accompanied by (a) a copy of the paper abstract, and (b) evidence that the paper is included in the conference/meeting program (e.g., web site containing the program or a page showing where the paper is scheduled in the program).

Each student is allowed one award per calendar year. The award will be a reimbursement of actual expenses up to a limit of \$1,500.00 per student. Awards will be made on a first-come-first served basis during the year. If more requests are received than our budget allows, then the Head and Associate Head will make selections based on the students' qualifications, and with priority given to first-time applicants and students who are still early in their research and can benefit most by attending a conference/meeting.

On completion of travel, the student will submit receipts using the [Division Business and Travel Expense Report form](#).

Teaching Practicum (SE 801 and SE 802)

All SE PhD students are required to teach for two semesters. Typically the first teaching assignment (ME/SE 801) is during the second year and the second assignment (ME/SE 802) is during the third year. During the semester in which the student is enrolled in ME/SE 801 or 802, he/she may only register for 12 credits (SE 801 or SE 802 plus 8 credits of SE 900). Students may take a structured course while teaching only if they receive

permission from their research advisor (credit limit would then be 10 – 4 for SE 801 or SE 802, 4 for the course and 2 for SE 900).

PhD Candidacy (Qual Exam + Math Requirement)

The PhD student achieves Candidacy upon successful completion of the SE PhD Qualifying Exam and the Math Requirement.

A PhD candidate has a maximum of five (5) years after passing the qualifying exam to complete all degree requirements. If the program requirements are not completed within five years, the student must petition the College of Engineering Graduate Committee for an extension using the College of Engineering [Graduate Petition Form](#).

Petition to Extend Candidacy

The petition to extend Candidacy should include the following material:

- Major reason(s) for delay
- How those delays have been resolved
- Evidence of research progress
- Detailed timeline and evidence that timeline can be adhered to
- Letter of support from advisor that addresses these issues

The College of Engineering Graduate Committee will determine whether or not a candidate may extend his/her participation in the PhD program. More than one petition to extend the completion date of degree requirements is rarely approved, so the student should be very sure that they would finish their dissertation by the date they propose on the extension.

SE PhD Qualifying Exam

Students must demonstrate they have an appropriate level of preparation for doctoral studies and their degree of understanding of systems

fundamentals by passing the SE Qualifying Exam. The SE Qualifying Exam is taken during the early summer (usually on a Tuesday and Thursday between graduation and Memorial Day) following the first academic year in the graduate program.

The exam consists of three topical sections. Students select three of the following five sections:

1. Dynamic Systems Theory (SE/EC/ME 501)
2. Continuous Stochastic Processes (EC505) OR Discrete Stochastic Processes (EK500 and SE/ME 714)
3. Optimization (SE/EC 674)
4. Dynamic Programming and Stochastic Control (SE/EC/ME 710)
5. Nonlinear Systems and Control (SE/ME 762)

The exam will have a written and an oral part. The written examination is closed book unless otherwise noted by the instructor. For the oral part, students will be asked to appear before the examination committee to (1) make a 20-minute research presentation related to one of the research rotations, and (2) answer questions. The questions will be on the research presentation, the student's academic background, and may include questions that arise from the written part of the exam. The department will provide guidance for students to prepare for the oral qualifying exam towards the end of the spring semester.

Policy Regarding “Partial Pass” and “Fail” Grades for the PhD Oral Qualifier Exam

Results from the Exam as a whole are evaluated by the SE Graduate Committee. In the event that a student fails all or part of the exam, potential outcomes include remedial coursework, an opportunity for a second oral exam on all or part of the material, or dismissal from the SE PhD program

Failure of a second attempt at the qualifier exam: The student will be dismissed from the SE PhD program. The student may apply to transfer to

the MS program or MEng program or apply to graduate if all MS or MEng requirements have been fulfilled

Sample Exams

- [May 2025 Exam](#)
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Math Requirement

SE PhD students are required to fulfill the math requirement no later than the end of their fourth academic semester. The list of courses will be reviewed periodically by the SE Graduate Committee. In preparation for the SE Qualifying Exam, students will by default fulfill this requirement if they earn a B+ or better in one of the following courses. Post-BS students. Complete with grade B+ or better one of:

- Dynamic Systems Theory (SE/EC/ME501)
- Optimization Theory and Methods (SE/EC674)
- Stochastic Processes (EC505)
- Probability with Statistical Applications (EK500)
- Dynamic Programming and Stochastic Control (SE/EC/ME710)
- Advanced Stochastic Modeling and Simulation (SE/ME714)

Post-MS students:

- Post BS requirement or
- Submit evidence of successful completion of B+ or better of equivalent course as determined by the SE Graduate Committee.

Prospectus Requirements

Advanced Responsible Conduct of Research Requirement

All College of Engineering PhD students are required to complete the Advanced Responsible Conduct of Research program prior to completing the Prospectus. The Advanced RCR program includes an online module through

CTI and the RCR course. [Information about the modules and a registration link are posted here](#). PhD candidates are required to complete the Responsible Conduct of Research (RCR) requirement before they can receive the post-prospectus stipend rate increase (Effective Fall 2024, the 5% post-prospectus increase will be eliminated and replaced by a 10% increase on attaining candidacy.).

Prospectus Committee

By the end of the sixth semester following matriculation, PhD candidates are required to form a Prospectus Committee and defend a dissertation prospectus. A Prospectus Defense will be scheduled by the student. Prospectus is defined as a public oral presentation of the proposal is held to describe the research and demonstrate the student's preparation. The PhD Prospectus Defense Committee must consist of at least four (4) members.

The student's research advisor will be the chairman of the prospectus committee but will not be a voting member of the committee. Membership of the Prospectus Committee constitutes the nucleus of the Final Oral Thesis Examination Committee (Dissertation Defense).

If a researcher from outside the University serves on a PhD student's committee, a Special Service Appointment Form (available in the Forms section, below) must be completed and submitted to the Division Graduate Programs Manager for division approval. The completed form and a copy of the person's curriculum vitae, with the Associate Chair for Graduate Studies' signature, will then be submitted to the Graduate Programs Office.

The Prospectus Defense Committee is charged with assessing the appropriateness of the research problem and the student's preparation, based on the written proposal and the oral presentation. The Prospectus Committee must approve that the Prospectus is at a stage appropriate for scheduling the examination via their signature on the PhD Prospectus Defense form.

Written Prospectus

Before undertaking this phase, the student should consult the [Guide for Writers of Theses & Dissertations](#) while preparing the dissertation and its abstract. The Prospectus document should include a signature page, a statement of the problem to be investigated, its background and significance, methods and approach(es) to be followed for its resolution, preliminary results, anticipated timetable for completion and pertinent bibliography. The format is similar to a typical research proposal.

- The prospectus should specifically document the anticipated contribution of the work to the body of knowledge
- A separate page listing the proposed title, author's name, research advisor's name and an abstract of approximately 150 words
- The prospectus should address the anticipated contribution of the work to the body of knowledge and the format must be similar to that of proposals submitted to a Federal Agency
- There is a 20 page (single-spaced) limit on the scientific portion of the proposal, which includes tables and figures but does not include the list of references
- The prospectus should include an up-to-date copy of the student's curriculum vitae (not part of the 20-page limit)

Scheduling the Prospectus Defense

Prior to scheduling the Prospectus Defense, the student must provide a copy of the Prospectus document to all members of the Prospectus Defense Committee. The student must also confirm with the committee members a date, time and location for the examination. The Division Graduate Programs Manager will be responsible for providing publicity for the student's Prospectus Defense to the SE students and faculty.

Register Your Prospectus Defense. The Graduate Programs Manager will create and distribute the appropriate form(s) to you and/or your committee members via AdobeSign. The committee's electronic signatures indicate that

they have read the Dissertation document and approve that the examination be scheduled.

Conduct and Length of the Oral Examination for the Prospectus Defense

The faculty research advisor should chair the Prospectus Defense, beginning with the introduction of the PhD student and his/her academic background. The student's presentation should last 20 to 30 minutes. The student should be able to defend his/her knowledge of the mathematical, physical and analytical tools to be used and how they may relate to other areas outside of his/her particular project. During this period, Prospectus Committee members or the audience may ask questions. The chair should guard against digressions and inappropriate questioning during the presentation. Following a reasonable question period, the student and the audience are dismissed and the Prospectus Committee remains to complete its assessment of the prospectus proposal examination.

Assessment

The Prospectus Defense Committee recommends that the student should pass, fail, or be given additional requirements (e.g., an additional written progress report or additional studies) to be completed no later than one year from the Prospectus Defense examination. In the case of failure, the Prospectus Committee recommends the appropriate action: a recommendation of failure may include a suggestion that the student re-take the Prospectus Defense exam or that the student be terminated from the PhD program. In the latter case, the student has the option of pursuing an MS or MEng degree but must complete all the requirements for that degree.

All Post-Bachelor's PhD degree students should declare a Master of Science degree when they successfully complete their PhD Prospectus Defense. This is not automatic and the student needs to complete an MS Program Planning Sheet and apply online for graduation.

If a student's Prospectus Defense deadline has passed, he/she needs to petition the SE Graduate Committee for an extension, including indicating a timeline for completion of the prospectus.

Reporting on Student Progress

The chair of the Prospectus Defense Committee will complete the "Prospectus Defense Results" section on the PhD 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 Division Graduate Programs Manager (who will be responsible for submitting to the Associate Chair for Graduate Studies for final approval).

Before the Prospectus Defense ends, the committee must indicate on the PhD Prospectus Defense form the date for the next committee meeting (at least once in the next 12 months) and indicate expected milestones for the next post-prospectus thesis committee meeting. Required revisions to the proposal should be completed satisfactorily before a final "Pass" grade is given.

Annual Progress Report

Dissertation committee meetings are to be held on a regular basis in order for the student to report progress and the committee to provide feedback. As a minimum, committee meetings will be held annually. The student will submit [PhD Annual Progress Reports](#), detailing progress towards milestones and the next planned steps and this will be sent to the Advisor for review. It is the responsibility of the student to contact the committee members and schedule the committee meetings.

Course Registration After Prospectus

After passing the Prospectus Defense, students will enroll for eight credits of SE 991 Dissertation each semester until the total credit requirement is met (64 credits for Post-BS, 32 credits for Post-MS). Once the student has fulfilled the total minimum credits requirement, he/she will register for two SE 991 credits each semester until they graduate.

Dissertation Requirements

Written Dissertation

Candidates shall demonstrate their abilities for independent research and scholarship by completing a doctoral dissertation in their field of study. The dissertation will be primarily guided by the first reader (advisor), with the advice of the other members of the Dissertation Defense Committee. The dissertation should represent original scientific/engineering contributions that are appropriate for publication in a recognized peer-reviewed journal. The dissertation is defended at a presentation open to the entire BU community.

Refer to the [Guide for Writers of Theses & Dissertations](#) while preparing the dissertation and its abstract. These must conform to the requirements of the University Microfilms International.

Although students will have an opportunity to make final revisions to the dissertation and abstract after their Final Oral Examination (Dissertation Defense), they should not regard their Final Oral Examination version as a “rough draft”.

Final Oral Examination (Dissertation Defense)

The Dissertation Defense 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 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 an expertise in his/her field of research specialization.

Final Oral Examination (Dissertation Defense) Committee

In preparation for the Dissertation Defense, it is the candidate's responsibility, in conjunction with that of his/her research advisor, to appoint a Dissertation Defense Committee. This committee usually consists of the faculty members who participated in the Prospectus Defense, and have followed the student's progress and annual progress meetings. The committee consists of five (5), including 4 readers and a Chair. The Chair may not also serve as a reader. The Division Graduate Programs Manager will appoint the chair for the Dissertation Defense, in consultation with student and advisor..

Special Service Appointment

If a researcher from outside the University serves on Dissertation Defense Committee, a Special Service Appointment Form (available below in the Forms section) must be completed. The completed form and a copy of the person's curriculum vitae, with the Associate Chairman for Graduate Studies' signature will be submitted to the Graduate Programs Office after receiving departmental approval. This form does not have to be re-submitted if it was approved for the Prospectus Defense.

Scheduling the Final Oral Examination (Dissertation Defense)

It is the student's responsibility for scheduling a date, location, and time with all the Dissertation Defense Committee members for the examination. Conference room reservations can be handled by the SE Graduate Programs Manager. Students can email se@bu.edu to request a room reservation. Otherwise, they can reserve their own room via 25Live.

At least three weeks prior to the Dissertation Defense date, the candidate must [Register the Defense](#) . The Graduate Programs Manager will create

and distribute the appropriate form(s) to you and/or your committee members via AdobeSign. The committee's electronic signatures indicate that they have read the Dissertation document and approve that the examination be scheduled. The candidate will be notified of the abstract approval or if revisions are required.

Before registering the final defense, the candidate must have provided a copy of the dissertation document to all members of the Final Oral Examination committee. When they sign the electronic abstract and defense forms, they are certifying that 1) that they have been provided a copy of the dissertation and 2) agree that it is ready to be defended. This form must also contain the date, time, and virtual location information and abstract.

Conduct and Length of the Final Oral Exam

The faculty research advisor or chair should introduce the candidate and include a brief academic background description. The candidate should restrict the length of the examination to approximately one-hour. During this period, either the Dissertation Defense Committee members or audience may ask questions of clarification. The chair should guard against digression and inappropriate questioning during the presentation. After the presentation, a reasonable period of questioning will follow, and then the audience will be dismissed. The Dissertation Defense Committee may wish at this time to ask additional questions of the candidate. Following this additional questioning, the candidate should be excused and the committee should complete its assessment of the examination.

Assessment

The Dissertation Defense Committee is charged with assessing completeness of the research, contribution to knowledge, and the candidate's mastery of his/her research area, based on the written dissertation and the oral presentation. 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 Dissertation Defense Committee has reached a decision. The chair will advise the student of the committee's decision. At this time the candidate will be advised of any changes that must be made to the final title, abstract or dissertation document, with a deadline provided by the Dissertation Defense Committee.

Reporting

The College's PhD Final Oral Examination Form must be completed at the examination, with specific indication of whether the title, abstract and dissertation are acceptable as they stand. If ALL requirements are acceptable, the committee members should sign the signature pages of the dissertation. If there is some rework to be done, this is to be noted on the Final Oral Exam form. Dissertation Defense Committee members should sign off on the form but will refrain from signing the signatures page of the dissertation until all conditions have been met UNLESS faculty will be traveling at the time of library submission in which case all but one (usually the advisor) Committee member may sign the signature pages. The last signature will be added when all revisions are completed.

Dissertation Approval and Library Submission

The signatures of the Dissertation Defense Committee members on the dissertation signatures page will be collected by the PhD student and submitted to the library and the division (2 copies).

The Division Associate Chair for Graduate Studies gives final approval on the Final Oral Examination form. The student will then follow the guidelines provided by Mugar Library. The Division Graduate Programs Manager will provide departmental electronic approval of the ETD submission upon collection of the 1) signature page and 2) title page.

The Division Graduate Programs Manager will order bound copies of the dissertation for the division and the advisor. Students are advised to order a bound copy directly from ProQuest if desired.

Forms

- [PhD Annual Progress Report Form](#)
- [Division Defense Registration Form](#)
- [College of Engineering Resources and Forms](#)
- [Application to Graduate](#)
- [SE PhD Internship Experience Approval Form](#)
- [SE MS Planning Sheet](#) (see forms section).

Apply to Graduate

The College of Engineering Application to Graduate can be completed in one to three steps, depending on whether you are applying to graduate with your post-Bachelor Masters (on completion of PhD Prospectus Defense) or PhD degree. For additional details on requirements and submission dates, you can refer to the [Graduation Deadlines](#).

Masters Application to Graduate

1. Download and fill out a Program Planning Sheet from the [Masters Handbook: Forms tab](#)
2. Email your Program Planning Sheet to your advisor for review and electronic signature (see Forms, above, for link).
3. Complete the [Online Application to Graduate](#) and upload your signed Program Planning Sheet.

PhD Application to Graduate

- Complete the [Online Application to Graduate](#).