PhD Programs in the Department of Electrical and Computer Engineering at Boston University

PhD Handbook
Reviewed and Approved by ECE’s Doctoral Committee on November 4, 2016

Department of Electrical and Computer Engineering
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Mission Statement

Important Terms

Overview of PhD Programs

There are two PhD programs offered in ECE: a post-BS PhD program and a post-MS PhD program. The post-BS PhD program (hegis code ENG 88) is a 64-credit program of which 32 credits must satisfy MS program requirements.

The post-MS PhD program (hegis code ENG81) is a 32-credit program. At least 16 credits must be research credits (EC900, EC991). Of these 32 credits, no courses can be transferred in from another university.

Students are enrolled in either the Electrical Engineering (hegis code 0909) or Computer Engineering (hegis code 0930) degree for either program outlined above.

Summary of PhD Timeline and Milestones

1. Candidacy
   i. Post-BS Timeline: students will complete their RPC examination at the end of their second academic semester. Post-BS students have three semesters to complete their TPC requirements and declare candidacy no later than the end of their third academic semester.
   ii. Post-MS Timeline: students will complete their RPC examination at the end of their second academic semester. Post-MS students have two semesters to complete their TPC requirements. They must declare candidacy no later than the beginning of their third academic semester.

2. Teaching Practicum: Every PhD student in the ECE Departments must complete two semesters of teaching practicum in the department within their first academic semesters of study. Teaching Practicum will be noted on a student’s transcript with two courses, EC801 and EC802.

3. RCR: All PhD students must complete the Responsible Conduct of Research Program.
i. Successful completion of RCR is also needed to successfully defend a prospectus.
4. **Prospectus:** All students must defend their prospectus no more than two years after declaring candidacy.
5. **Dissertation:** All PhD students must defend their dissertation no more than four years after declaring candidacy.

**PhD Graduate Student Funding**

Research and Graduate Programs are central to the mission of the ECE Department in the College of Engineering at Boston University. The majority of first year graduate students are funded on a Distinguished ECE Fellowship or a Dean's Fellowship the first academic year.

**Distinguished ECE Fellowship**

The Distinguished ECE Fellowship is awarded to PhD students for their first academic year. It is not renewable for the academic years to follow. The remaining part of the PhD program, students are funded on a Research Assistantship (RA), by their research advisor. For financial information about this fellowship please contact Financial Manager, Alyssa Lino.

**Dean's Fellowship**

The Dean’s Fellowship provides a PhD applicant with full tuition, BU basic individual health insurance, student services fee, and an academic year stipend of $33,000 (2017/2018) paid over the twelve month period September 1, 2016 through August 31, 2017. Additionally, the Fellowship provides a one-time relocation allowance of $3,000.

The Dean’s Fellowship is not renewable, but each recipient can expect continued support in the subsequent years provided that he/she makes good progress toward completion of the doctoral degree. This support will typically come in the form of a Graduate Research Assistantship but may also include funding as a Graduate Teaching Fellow. No specific teaching or research service is required of Dean’s Fellows, but recipients are expected to establish research goals with a research advisor during the first year of study.

All applicants to the PhD program are automatically considered for the Dean’s Fellowship award, and no special application is required. Potential recipients are nominated by each department. For financial information about this fellowship please contact Financial Manager, Alyssa Lino.

**Research Assistantship (RA)**

Both have the same stipend rate for all student recipients and require full-time student status. The remaining part of the PhD program, students are funded on a Research Assistantship (RA), by their research advisor.

**Gap Funding**

If there is a gap in funding from the research (entails student will teach for a semester; this does not count towards teaching program requirement), research supervisor. The advisor should notify the
student and the student should notify the graduate chair, Anna Swan and the Academic Programs Manager, Sabrina Salvati.

**External Fellowships**

A fraction of our students, both US and International students come with their own funding throughout their PhD career. Students with such fellowships should check to make sure there no stipulations from their funding agency at odds with the ECE PhD program.

**Internal Fellowships**

There are several BU Fellowships ECE PhD students are eligible to apply or be nominated for. Some fellowships give extra support for students, e.g. for travel or supplies, others are full graduate fellowships.

- **Hariri Fellowship**   Deadline March 31, 2017
- **BUnano Fellowship**  Deadline May 2017
- **Clare Boothe Luce Fellowship**  Deadline March 2017

ECE encourages graduate students to seek internal and external fellowships from reputable sources that will enhance their careers and provide resources toward their tuition and stipend. Students are expected to accept external funds in lieu of internal fellowships and assistantships. In the event that an external award is less than the ENG stipend rate, the College will supplement it to make up the difference. Tapping into these external sources allows the College to support the greatest number of eligible students, given financial resources, while also enhancing the research environment and impact.

**Registration Requirements**

1. **Registration**
   All PhD students are required to register each semester (Fall, Spring, and Summer) unless on an approved Leave of Absence.

2. **Full-Time Status**
   Normally, ECE PhD students register no more than four 4-credit courses each semester. Generally, ECE PhD students register for eight credits each semester until completion of all credit requirements. When an ECE PhD student has complete all credit requirements, they register for two credits for the reminder of their program. The only exception is an authorized Leave of Absence.

   All international students must be classified full-time to maintain their visa status as follows:

3. **Leave of Absence/Withdrawal**
   Students must register for each academic semester 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/ Leave of Absence form to the Graduate Programs Office.

Students are allowed a maximum of two semesters of leave without having to re-apply to the program. Beyond two semesters, the student must submit a petition approved by the advisor and the Department Graduate Associate Chair.

The period of authorized leave of absence is counted as part of the time allowed for completion of degree requirements.

International students must also contact the International Students and Scholars Office when taking a leave of absence or when withdrawing from the University.

**Grade Requirement for Structured Coursework**

Grades of C or below will not count towards fulfilling any requirements for the post-BS or post-MS PhD programs.

**Research Credit Courses – EC900 and EC991**

All ECE PhD students should be registered for research credits with their research advisor no later than their third academic semester in the department. EC900 denotes pre-prospectus research and EC991 denotes post-prospectus research.

Students will be registered for research credits every semester (fall, spring, and summer) while they are enrolled in the program.

Only grade of P, F, or J will be assigned to research credits.

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

Post-BS PhD students are required to complete a minimum of 64 credits applicable to their degree. 32 of these 64 credits must satisfy all MS program requirements with the exception of the practicum course which will instead be satisfied by 4 credits of EC900 research at the time of a successful prospectus defense. Of the 32 credits for the MS requirement, 28 credits must be structured courses, all of which must be at the graduate level.

A post-BS PhD student in the ECE department must complete 28 credits of structured coursework, per the MS program planning sheet. The remaining 4 credits of the 32 credit MS program requirement can be satisfied with 4 credits of EC900 research work, converted from a P/F/J grade to a letter grade at the time of the student’s successful prospectus defense. For a post-BS PhD student, a successfully defended prospectus satisfies the MS practicum component.
16 credits of the 32 credits required to complete MS requirement need to be graduate-level ECE courses in compliance with TPC requirements.

After satisfying the 32-credit MS requirement, the remaining 32 credits in the 64-credit program are research credits with the exception of 8 credits of two individual semesters of teaching practicum, EC801 and EC802, which are 4 credits each.

If students wish to enroll in additional structured courses, they are allowed to do so with the permission of their faculty advisor. Any additional structured courses are expected to directly relate to a student’s doctoral research.

Credit Requirement for Post-MS PhD Students

Post-MS PhD students are required to complete 32 credits applicable to their degree. Of those 32 credits, 8 structured credits must be graduate-level ECE course credits in compliance with TPC requirements. Of those 32 credit requirements a minimum of eight credits of research/dissertation are required. Courses below the 500 level are not applicable to the post-master’s Ph.D. program.

Post-master’s Ph.D. students, who have completed all credit requirements, are required to register for a minimum of two research or dissertation credits each academic semester unless taking a specific course or on an approved Leave of Absence. Post-master’s Ph.D. students are not permitted to declare an M.S. degrees. Questions concerning this policy should be directed to the department graduate administrator.

No courses may be transferred from other universities to reduce the 32 credit requirement. Specific requirements relative to the selection of courses, seminars, and research or directed study will be determined in consultation with the student’s advisor.

Post-master’s Ph.D. 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 Ph.D. program. Only credits that are applicable to degree requirements are acceptable (i.e., 500 level and above, a B or better, etc.).

PhD Transfer – Internal and External

If PhD students come to ECE with new faculty or transfer into ECE from another Boston University department with an ECE faculty advisor, they are required to apply to the program but it is expected that they will matriculate at their previous departmental / program level (i.e., an external post-qualified PhD student will become a post-qualified PhD student in ECE) provided that the department / external program have similar academic and qualifying standards. Transfer students and their faculty advisors must provide ample evidence they have satisfactorily passed comparable examination to ECE’s RPC and TPC requirements. This will be formalized with the student’s faculty advisor and the ECE Graduate Chair.
Students that transfer into the program with new faculty can apply, matriculate, and enroll into the program at any time throughout the academic year. First-year students are required to apply, matriculate, and enroll for a fall program start date.

Residency Requirement

Each student must satisfy the minimum residency requirement of two consecutive regular semesters 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.

In order to graduate, students must be registered as full or part-time students in the semester in which they complete degree requirements and in the preceding semester.

ECE’s Qualifying Examination – TPC and RPC

The ECE PhD Qualifying Process is primarily designed to provide admitted PhD students (1) opportunities to demonstrate their technical and research abilities to ECE faculty and (2) diagnostic feedback on improving upon their preparation for taking on PhD research. Failure to satisfy the requirements of the ECE PhD Qualifying Process results in removal of the student from the PhD program.

The ECE PhD Qualifying Process required the admitted PhD student to satisfy a Technical Preparation Criterion (TPC) and a Research Preparation Criterion (RPC).

1. Technical Preparation Criterion (TPC) for Post-BS and Post-MS ECE PhD Students
   i. Post-BS PhD students are required to satisfy TPC within their first 3 semesters by taking 4 ECE graduate courses and obtaining a GPA of at least 3.70 across those 4 courses. It is expected that these 4 courses are relevant to the student’s future thesis work.
   ii. Post-MS PhD students are required to satisfy TPC within their first 2 semesters by taking 2 ECE graduate courses obtaining a GPA of at least 3.70 across those 2 courses. It is expected that these 2 courses are relevant to the student’s future thesis work.

2. Research Preparation Criterion (RPC) for Post-BS and Post-MS ECE PhD Students
   i. All PhD students are required to satisfy RPC by passing a 1.5-hour oral examination (typically scheduled by the department at the end of their second academic semester) in which 3 ECE faculty members assess the research abilities of a student. The assessment is carried out in the context of a recent research article from the field of the student’s intended PhD research.
   ii. Students who do not pass the oral examination on their first attempt are allowed one additional attempt later that same summer.

General Information Regarding RPC and TPC
3. A leave of absence will not exempt an individual from completing the RPC examination at the end of their second academic semester in the program.

4. The RPC is normally taken by admitted Ph.D. students; but, it may be taken by a currently enrolled Master’s student upon the recommendation of the student’s faculty advisor and approved by the ECE Graduate Committee.

5. Any person not registered as either a College of Engineering Master’s or Ph.D. student will not be allowed to participate in the RPC.

6. Two failures of the RPC examination result in withdrawal from the program. If a student fails the RPC examination for a second time, the student does have the right to petition the outcome of that exam. A petition MUST be completed within one week (5 business days) after the notification of failure. This petition must first be reviewed and approved by the student’s faculty advisor. It will then be reviewed at both the ECE Doctoral Committee and the College Graduate Committee.

ECE PhD Candidacy

A student is admitted to the Ph.D. candidacy upon successful completion of both TPC and RPC requirements. At that time the candidate will receive formal notification of Ph.D. candidacy from the ECE Department.

Post-MS PhD students must achieve candidacy by the start of their second fall semester.

Post-BS PhD students must achieve candidacy by the start of their second spring semester. Post-BS PhD students may apply for candidacy at the start of their second of fall semester.

The date on which a student achieves candidacy is the basis for their prospectus defense and dissertation defense deadlines.

Expiration of Candidacy

Ph.D. candidacy will expire on its fifth anniversary. The student will need to petition the Engineering Graduate Committee 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 form the advisor that he/she agrees to the plan. The petition will be reviewed by the Engineering Graduate Committee and the student will be advised in writing of the outcome.

ECE Dissertation Prospectus Defense

Overview: Within two years of attaining candidacy, it is required that a Ph.D. candidate will present an Oral Dissertation Proposal to the prospective dissertation committee and obtain approval for the dissertation.

1. ECE Dissertation Prospectus Defense Timeline
Students who achieve candidacy after their first year are expected to present their prospectus defense during their third year in the program. Students who achieve candidacy in the middle of their second year have one extra semester to defend their prospectus defense. Students are required to present their Prospectus Defense within two years of attaining candidacy.

In no instance will a student be allowed to present a Prospectus Defense until they have become a Ph.D. candidate.

Ph.D. students enroll for pre-prospectus research credits (EC900) until they pass their Prospectus Defense. After successfully defending a prospectus, students are enrolled in post-prospectus research credits (EC991).

2. **ECE Dissertation Prospectus Defense Topic**
   A research problem is selected after initial discussions between a Faculty Research Advisor and the student. The student registers for research credits until sufficient investigation of the topic has been undertaken to believe the subject is worthy of a dissertation, and at that time a Dissertation Committee is formed. For the prospectus defense, the student is expected to understand literature and state-of-the-art work in their specific area as well as propose and motivate a research topic in the prospectus defense.

3. **ECE Dissertation Prospectus Defense Committee**
   The Prospectus Defense Committee will normally consist of a minimum of three College of Engineering tenured or tenure-earning faculty, one of which may be an affiliated faculty member, and must include at least two faculty members of the academic department in which the student is enrolled. Membership of the committee generally constitutes the nucleus of the Final Oral Examination Committee.

   The composition of the Prospectus Defense Committee is to be reported to the Department Graduate Associate chair or Division Associate Head by the Research Advisor prior to scheduling the Prospectus Defense. The Chairman of the Committee is the student’s Research Advisor. A Research Advisor who is not a primary ECE faculty member or an affiliated ECE faculty member may serve under the following two conditions
   A. He/she is approved by the department’s/division’s Graduate Committee
   B. A faculty member of the doctoral student’s department/division accepts to serve as co-major Research Advisor.

4. **External Scholars on ECE Dissertation Prospectus Defense Committees**
   Occasionally scholars from outside the University serve on ECE dissertation committees. When a scholar is from outside the University a Special Service Appointment form must be completed. A copy of the person’s vitae and the completed form, with the ECE Graduate Associate Chair’s approval, 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. If an external scholar’s appointment is approved for a student’s prospectus
defense committee, the approval automatically transfers to the student’s dissertation committee.

5. **ECE Dissertation Prospectus Defense – Written Guidelines**
   The student must provide a copy of the Dissertation Prospectus to all members of the Prospectus Defense Committee. The proposal should include:
   - a statement of the problem to be investigated
   - its background and significance
   - approach(es) to be followed for its resolution
   - preliminary results
   - anticipated timetable for completion
   - pertinent bibliography

   The proposal should specifically document the anticipated contribution that this work will have to the body of knowledge. A separate page listing the proposed title, author’s name, Research Advisor’s name and an abstract of no more than 350 words must also be submitted.

   The preferred format is similar to that of proposals submitted to a Federal Agency. There is a 10 page *(not including the first title page, references and cv)* (single space, 12 point, Arial) limit on the scientific portion of the proposal. This includes tables and figures but does not include the bibliography. Please refer to the template. Students must distribute their prospectus to their committee members a minimum of three weeks ahead of the anticipated oral prospectus presentation date.

6. **ECE Dissertation Prospectus Defense – Scheduling Guidelines**
   After reading the Dissertation Prospectus and agreeing that the student is ready, the Prospectus Committee members will indication their approval on the PhD Dissertation Prospectus Defense form. It is the student’s responsibility to obtain the necessary committee members’ signatures and an agreed upon date and time for the presentation. The student is responsible for reserving a room for the presentation. When all this has been completed and noted on the PhD Dissertation Prospectus Defense form, the form (with abstract attached) is submitted to the ECE Graduate Chair who must indicate approval on the form. It is the Prospectus Chair’s responsibility to bring the original form containing the Committee Members’ signatures to the oral presentation.

   The title, abstract, date, time and location of the Oral Proposal Defense must be submitted to the ECE Graduate Chair with a signed copy of the ECE Prospectus Defense form to the ECE Department, no less than two weeks before the oral prospectus presentation date.

   It is the ECE Department’s responsibility to provide adequate publicity for the student’s Prospectus Defense. Per the College, It is the department’s/division’s responsibility to provide adequate publicity for the student’s Final Oral Defense a minimum of **two weeks** prior to the Dissertation Defense.
The faculty Research Advisor should chair the Defense and begin with an introduction of the Ph.D. 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 one hour. During this period, clarifying questions may be asked by Committee Members or the audience. 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 Committee remains the complete its assessment of the Prospectus Defense.

8. **ECE Dissertation Prospectus Defense – Assessment**
   The Dissertation 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 Committee must decide if the student passes, passes with conditions, or fails. The 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 Ph.D. Prospectus Defense Form.

   The Chair of the Committee will complete the “Prospectus Defense Results” sections on the “Ph.D. Dissertation Prospectus Defense” form. If the student is required to meet certain conditions, those condition 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 ECE Graduate Chair for signature.

   After ECE Graduate Chair records the results of the defense, the signed original “Ph.D. Dissertation Prospectus Defense” form is forwarded to the Department/Division Office, The ECE Department 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.

10. **After a Successful ECE Dissertation Prospectus Defense**
    A post-prospectus student will be paid at the highest salary level at the start of the next semester. A post-prospectus student is able to complete dissertation work applicable to their degree outside of BU (international PhD students should refer to the CPT requirements as they pertain to completing research work outside of BU listed under “Considerations for International Students”).

    Students need to schedule an annual check-in with all members of their prospectus defense committee and submit a signed Prospectus Committee Progress Report form to the ECE Department Office.

**ECE Dissertation Defense**
Overview: Ph.D. Candidates are expected to prepare and carry out an independent and original research project in their field of study in partial fulfillment of the Ph.D. requirement. The dissertation will be primarily guided by their research advisor, with the advice of the prospectus defense committee members. 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.

Students are expected to read and follow the latest edition of the Research Guide for the Writers of Theses and 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.” Specifically, this version of the abstract is the version is circulated to all ECE graduate students, ECE faculty, members of the examining committee. A final version of the abstract is submitted electronically to Mugar Library.

No student will be allowed to defend a completed Ph.D. dissertation if he/she is not a Ph.D. candidate.

1. **ECE Dissertation – Final Oral Defense Committee**

   The nucleus of the Final Oral Examination Committee is normally comprised of the Prospectus Defense Committee. The minimum Final Oral Committee size is **five**: two of the five members on the committee must be (tenured or tenure earning) faculty from the student’s academic department/divisions; the student's’ major advisor serves as the first reader; and, the Chair for the committee is assigned by the department/division. A third Engineering faculty member on the committee may be an affiliated faculty member. A reader cannot also act as the Chair for the committee. The Chair does not have to be a member of the student’s academic department/division, but must be a member of college of Engineering. A major doctoral Research Advisor who is not a member of the doctoral student’s department/division may serve under the following two conditions:

   a. He/She is approved by the department's/division's Graduate Committee.
   b. A faculty member of the doctoral student’s department/division accepts to serve as co-major Research Advisor.

   When a scholar is from outside the University a Special Service Appointment form must be completed. The completed form and a copy of the persons’ vitae, with the Department Graduate Programs. The students will be notified in writing of the approval disapproval of the person requesting the 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 of 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 of the final defense. This is a College rule that will serve as minimum requirement for all ECE PhD students.
2. **ECE Dissertation Defense Abstract**

   The candidate submits the abstract, maximum of 350 words, long with a Ph.D. Dissertation Defense Abstract form to his/her major professor for approval and signature. Once the abstract has approved by the major professor, signed, and a tentative defense date determined, the student is responsible for bringing the signed form along with a copy of the abstract to the Department/Division Office. This must be at least three weeks prior to the proposed date of the dissertation defense.

   The Department/Division Office notifies the candidate in writing if it is acceptable or needs revisions. Once a final abstract has been approved, it is the responsibility of the student to send an electronic (e-mail) version of the abstract to the Department/Division Office for announcement purposes.

3. **ECE Dissertation – Final Oral Examination**

   The Final Oral 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/division Office 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 his/her field of research specialization.

   a. **Arranging for a Final Oral Examination**

      In preparation for the Final Oral Defense, it is the candidate’s responsibility, in conjunction with his/her Research Advisor, to appoint a Defense Committee. The Committee consists of hose tenured or tenure-earning faculty who participated in the Prospectus Defense and others to make a minimum of four readers. A minimum of two members must be tenured or tenure earning faculty in the student’s department/division. An affiliated faculty member may be a third engineering faculty member on the committee. The chair, who cannot be a reader, for the Final Oral Examination is assigned by the department/division for a minimum total of five members. An ECE PhD student’s dissertation chair does not have to be a member of the student’s academic department/division, but must be a member of the College of Engineering.

      The candidate must provide a copy of the dissertation to all members of the Final Oral Examination Committee prior to requesting that his/her examination be scheduled. It is the candidate’s responsibility to entire that all formatting and reporting requirements are met, including his/her Abstract and Dissertation.

      The student is responsible for Obtaining a preferred date and time for the presentation by having the agreement of all his/her committee members.
It is the candidate’s responsibility to obtain signatures of all Committee members on the Ph.D. Final Oral Examination form indicating they have read the dissertation and agree the individual is prepared to proceed.

It is suggested that the candidate practice his/her presentation with his/her advisor prior to the actual presentation.

The candidate obtains the ECE Department Graduate Chair’s signature indicating approval of the Committee and scheduled Defense date. The candidate then submits the form to the ECE Office. This must be done, at minimum, two weeks prior to the defense. Candidates must adhere to the current deadlines for completing the Final Oral Examination and submitting their Dissertation which change from semester to semester.

Room arrangements are made by the ECE Department. The name of the Chairperson, who cannot also be a reader, is provided to the candidate by the ECE Department. It is the student’s responsibility to arrange a meeting with the Chair prior to his/her presentation. The student is all responsible for providing the Chair with a copy of the dissertation.

It is the ECE Department’s responsibility to provide adequate publicity for the student's Final Oral Defense a minimum of two weeks prior to the Dissertation Defense.

The signed original Ph.D. Final Oral Examination form is sent to the Chair by the Department/Division Office. The Chair brings the original form to the presentation.

4. **ECE Dissertation – Conduct of the Final Oral Examination**

   No Final Oral Examination may begin unless all College approved committee members, as listed on the “Final Oral Examination,” form are present. It is the Chairman’s responsibility to enforce this requirement. The student’s 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 one hour. 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 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 deserved by not allowing the committee or audience members to have side discussions.

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

5. **ECE Dissertation – Assessment 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 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 Chairman’s responsibility to call the candidate back after the Committee has reached a decision. The Chairman 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.

6. **ECE Dissertation – Reporting the Results of the Final Oral Examination**

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 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 Ph.D. Final oral Examination form at this time, but will refrain from signing the 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, then Approval page of the dissertation is to be signed by all committee members, except the Chair.

The Chair delivers the signed Ph.D. Final Oral Examination form and any attachments to the ECE Academic Programs Manager and it is then reviewed by ECE’s Associate Chair for the Doctoral Program. It is the responsibility of the Department/Division Office to ensure that all necessary information is recorded with the University.

7. **ECE 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 Committee members, except the Chairperson, on the Dissertation Approval page.

It is the student’s responsibility to deliver the copies of the Dissertation to the major Research Advisor, the ECE Department, and Mugar Library to satisfy final department/division requirements.

One signature page containing all original signatures is needed for submission to the ECE Department.
An additional signature page containing all original signatures is needed for electronic submission at Mugar Library. Doctoral candidates are expected to submit the significant results of their research to recognized journals for publication.

8. **ECE Dissertation – Library Submission**
   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 his/her Ph.D. degree and that the student’s name appears on the official graduation list.