Requirements and Guidelines
Ph.D. in Electrical Engineering and Computer Science

EFFECTIVE FOR ENTRY TERM FALL SEMESTER 2014 -or- LATER.

This document, along with the Program of Study form, supersedes any other written documentation (including DARS).

I.   Minimum Entrance Requirements

Admission to the Ph.D. program is considered for applicants who either, currently hold an M.S. degree or those who seek direct entry to the Ph.D. program with a B.S. degree.

Normally, an M.S. and/or B.S. degree in Electrical Engineering, Computer Engineering, or Computer Science is expected. Those with an M.S. and/or B.S. degree in a related field will be considered. In all cases, excellent academic performance at the M.S. and/or B.S. level is expected. The applicant's background should reflect an ability to carry out independent supervised research.

II.   Definitions

The "graduate committee," or "EECSGC," is a standing committee appointed annually by the School Chair and whose function is to administer the graduate programs of the school.

A student's "examining committee" is defined in Section IV (c).

The two committees are separate and distinct bodies; however, in some cases there may be one or more members of the EECSGC on a particular student's examining committee.

III.   Degree Requirements

A.   Coursework Requirements – Ph.D. with M.S.

a)   At least 15 semester hours of formal coursework, at the 6000-level or above is required. Additional coursework may be required in cases where the student's background is found to be insufficient. The need for additional coursework will be assessed by the examining committee. Independent Study or other informal coursework will not count toward the required 15 credit hours.

b)   At least 9 semester hours of formal coursework must be in EE and/or CS at the 6000-level or above. At least 3 semester hours of formal coursework must be in mathematics or the natural sciences at the 6000-level or above is required; exceptions must be pre-approved. The coursework must be arranged so that the major emphasis is in a single area of EECS (namely, the student's chosen area of specialization). All coursework to be applied to the Ph.D. degree requirements must be approved by the EECS faculty members on the student's examining committee and the Chair of the EECSGC.

c)   No credit hours below a grade of B may be counted toward the Ph.D. program requirements. More than 6 semester hours below a grade of B will automatically drop the student from the program. The student must maintain a 3.0/4.0 grade point average to remain in the program. Students failing to maintain a 3.0/4.0 grade point average may petition the EECSGC to remain in the program for one additional semester, during which the student's grade point average must be corrected to at least 3.0/4.0. Only one such petition is allowed during the degree program.

d)   All students are required to obtain a passing grade in two (2) semesters of EE 6981 Graduate Research Seminar. Students should register for one (1) hour each in two (2) (nominally consecutive) semesters. EE 6981 is offered on a pass/fail basis. Ph.D.-with-M.S. students are required to present their dissertation research work in its current state to the seminar at least once.

e)   One semester of ET 6020 Technical Writing Seminar is required.

B.   Coursework Requirements – Ph.D. with B.S.

a)   At least 30 semester hours of formal graduate coursework is required. Additional coursework may be required in cases where the student's background is found to be insufficient. The need for additional coursework will be assessed by the examining committee. No more than 3 semester hours of Independent Study or other informal coursework may count toward the required 30 credit hours.

b)   At least 18 semester hours of formal coursework at the 6000-level or above is required, of which at least 12 must be in EE and/or CS and 3 must be in mathematics or the natural sciences; exceptions must be pre-approved.

c)   At least 18 semester hours of formal graduate coursework must be in EE and/or CS.

d)   On the Program of Study, the student will indicate his/her chosen area of specialization (the dissertation advisor must approve this selection). The student must take two EE and/or CS courses that fall outside this area. The remaining coursework must be arranged so that the major emphasis is on the student's chosen area of specialization. All coursework to be applied to the Ph.D. degree requirements must be approved by the EECS faculty members on the student's examining committee and the Chair of the EECSGC.

e)   No credit hours below a grade of B may be counted toward the Ph.D. program requirements. More than 6 semester hours below a grade of B will automatically drop the student from the program. The student must maintain a 3.0/4.0 grade point average to remain in the program. Students failing to maintain a 3.0/4.0 grade point average may petition the EECSGC to remain in the program for one additional semester, during which the student's grade point average must be corrected to at least 3.0/4.0. Only one such petition is allowed during the degree program.

f)   All students are required to obtain a passing grade in three (3) semesters of EE 6981 Graduate Research Seminar. Students should register for one (1) hour each in three (3) semesters. EE 6981 is offered on a pass/fail basis. Ph.D.-with-B.S. students are required to present their dissertation research work in its current state to the seminar at least twice.

g)   One semester of ET 6020 Technical Writing Seminar is required.

C.   Other Requirements

a)   A three-part (Part A-written, Part B-oral, and Part C-research proposal) comprehensive examination must be passed. This is taken with the dissertation advisor's approval and Part A must be attempted within one (1) semester after completing the formal coursework listed on the student's approved Program of Study (as per in III.A.a or III.B.a). Exceptions must be approved in advance by the EECSGC. Part B must be taken within 6 months of passing Part A; Part C must be completed within one year of passing Part B.

b)   Candidacy. After passing parts A and B of the comprehensive examination, and having had a research proposal accepted by his or her dissertation advisor and the examining committee (Part C), the student is admitted to candidacy.

c)   Dissertation Defense. The candidate must pass an oral examination on his or her dissertation. The dissertation must be submitted to the examining committee at least four weeks prior to the scheduled defense date.   Any member of the examining committee, after scrutinizing the dissertation, may request a postponement of the defense.   Students scheduling their dissertation defense earlier than one calendar year after the approval of the research proposal must obtain the prior approval of the EECSGC. The minimum amount of time to be reserved for the dissertation defense is three hours.

d)   An acceptable dissertation must be submitted, and this should be equivalent to a minimum of two calendar years of full-time independent research. A minimum of 54 semester hours of EE 8950 or CS 8950 Dissertation is required. The dissertation must be based on research performed by the student and for which the student has had at least two refereed articles published or accepted for publication. Articles which have been accepted, subject to major revisions, are not to be considered until the revisions have been submitted and approved. The student's examining committee will decide which publications are acceptable. The articles may be co-authored, but the student must be a primary author. Exceptions to this must be approved (prior to the scheduling of the dissertation defense) by the examining committee and the EECSGC.

IV.   Committee and Advisor

a)   Upon entering the program, the Chair of the EECS Graduate Committee can act as the student's temporary academic advisor until a dissertation advisor has been obtained. In most cases, the Chair will not assist the student with course selection; rather, he or she will direct the student to an EECS faculty member with similar research interests for advice on course selection. The student should understand that giving such advice does not mean that the faculty member has agreed to serve as the student's major advisor. This faculty member will aid the student in course selection for no more than two semesters.

b)   The major advisor is a faculty member in the student's field of interest who will confer with the student and plan a Program of Study no later than the end of the sixth week of the first semester after the student has completed 9 hours of formal course work. The student should understand that a major advisor is arranged by mutual consent. In no case will the EECSGC or its Chair "assign" a major advisor to a student. The student is expected to inform the major advisor of his or her progress on a regular basis.

c)   The student's examining committee is chosen, in consultation with the major advisor, no later than the end of the sixth week of the first semester after the student has completed 9 hours of formal course work. The examining committee consists of six (6) members: major advisor, who serves as chair, three (3) other EECS faculty members, all of which must be Graduate Faculty or Associate Graduate Faculty in the School of Electrical Engineering and Computer Science, and two (2) external representatives, who are recommended to and approved by the Associate Dean for Research and Graduate Studies of the Russ College of Engineering and Technology. The expectation is that each member of the examining committee, with the exception of the external representatives, should be currently performing research in the student's area of specialization. The external representatives must come from schools/departments outside the Russ College of Engineering and Technology. The examining committee is to be kept informed of the student's research progress. It is strongly encouraged for the student to submit a progress report to the examining committee each semester.

V.   Program of Study

a)   Immediately after (or during) the selection of the student's examining committee, the student must plan a Program of Study in consultation with the major advisor. The Program of Study is recorded on a form provided on the EECS website. After completing the form, the student must obtain the signatures of the major advisor and all examining committee members. The completed form is then submitted to the EECS Graduate Programs Office for final approval by the EECS Graduate Committee Chair.

b) **The Program of Study must be submitted by the end of the sixth week of the first semester following the student's completion of 9 hours of formal course work.**

c) Changes to the Program of Study may be made by obtaining the appropriate form from the EECS website. Signatures of the major advisor and dissertation committee members must be obtained. The completed form is then submitted to the EECS Graduate Programs Office for final approval by the EECS Graduate Committee Chair.

d) No changes in the Program of Study will be approved for the addition or deletion of a course for which a grade has already been received.

VI.   Details of the Comprehensive Examination

a) The examination will be held upon mutual consent of the student and the examining committee.

b) The examination will consist of three (3) separate parts:

Part A – Written Exam. This is a one (1) day written examination covering the student's chosen area of specialization. The exam will be 3 – 4 hours in duration. The exam will be prepared by the EECS faculty members on the student's examining committee. The exam is intended to evaluate the student's background in his/her chosen specialization. Exam topics will be drawn primarily from graduate-level coursework in the student's chosen area of specialization. Related questions from mathematics and/or the natural sciences are acceptable. The examining committee will decide on the nature (i.e., open book, closed book) and format of the exam. The format and content of the exam must have the prior approval of the EECS Graduate Chair. The examining committee will then communicate the exam format, schedule, and location in advance and in writing to the student.

Part A must be passed in no more than two (2) attempts. The second attempt must be made within three (3) months of the first. If the student fails the exam on the second attempt he or she will be dropped from the Ph.D. program. If the student passes, he or she will continue with Part B.

Part B – Oral Exam. This is a one (1) day[1] exam taken within 6 months of passing Part A. The exam is intended to evaluate the student's ability to carry out independent supervised research in his/her chosen area of specialization. The exam is administered by the EECS faculty members on the student's examining committee. The student shall demonstrate an understanding and competence in the state-of-the-art of his/her chosen area of specialization and in general EE/CS background in order to pass this part.

Part B may be attempted no more than two (2) times and the second attempt must be made within three (3) months of the first.

Part C – Research Proposal Defense. This is a one (1) day[1] exam, taken within one year of passing Part B. A written research proposal must be submitted to the student's full examining committee two weeks prior to the proposal defense (Part C). The defense cannot be taken until Parts A and B are passed. The defense, administered by the student's full examining committee, is intended to evaluate the originality, significance and depth of the proposed research. The student should be prepared to answer questions regarding his or her research proposal. In the event that Part C is failed on the first attempt the student's full examining committee will designate a time for the second attempt not more than three months after the first. Part C may be attempted no more than two times.

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[1] This part has no set time limit; however, the exam typically lasts two (2) to four (4) hours. In arranging times and locations for this exam, at least four (4) hours should be allotted.

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The proposal must be written according to the "Guidelines for Dissertation Proposal" which is available on the EECS website.

The acceptability of the student's performance on each part of the comprehensive exam, as well as the final dissertation, will be determined by a majority vote of the participating members of the examining committee. Note that the external representatives are the only committee members with veto power.

VII.   M.S. Conferral for Ph.D.-with-B.S. Students

Ph.D.-with-B.S. students may apply for conferral of a M.S. degree once the following requirements have been met: 1) all formal coursework listed on the student's Program of Study has been successfully completed,
2) a passing grade in at least one (1) semester of EE 6981 Graduate Research Seminar has been earned and one (1) satisfactory seminar presentation has been made, 3) Part A of the Comprehensive Examination has been passed.

VIII.   Student Records

The student's record will contain documentation of:

a) Program of Study
b) The results of Part A of the comprehensive exam
c) The results of Part B of the comprehensive exam
d) The results of Part C of the comprehensive exam
e) Any documents deemed necessary by the dissertation advisor or Graduate Chair

IX.   Transfer of Credit

a)   Credit Transferred from Another Institution

A maximum of six (6) semester hours, or the equivalent, may be transferred from an accredited university and applied towards a student's Ph.D. degree requirements providing:

1. The credit hours are designated at the transferring institution as graduate-level only.
2. The credit hours were obtained by taking formal coursework within the past five (5) years. No correspondence credit will be accepted.
3. Grades earned on all transfer credit are B or better.

b)   Credit Obtained While Enrolled in the EE or CS M.S. Degree Program at Ohio University

A maximum of six (6) semester hours of graduate-level credit obtained while pursuing the EE or CS M.S. degree at Ohio University may be applied toward a student's Ph.D. degree requirements providing:

1. The credits were obtained by taking formal coursework at the graduate level. No correspondence credit will be accepted.
2. Grades earned on all transfer credit are B or better.
3. The credit was earned during the past year. The purpose of this requirement is to avoid delay in the submission of the M.S. thesis.
4. The credits are not applied toward the M.S. degree.

X.   Time Limit

Students must complete all degree requirements for the degree within seven (7) calendar years from the date of admission to the Ph.D. program. This is an Ohio University requirement.