



**GRADUATE DEGREE PROGRAMS
in
COMPUTER SCIENCE AND ENGINEERING**

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TABLE OF CONTENTS

1. OVERVIEW OF THE CSE GRADUATE PROGRAMS	3
1.1 TERMINAL M.S. /M.S.E. DEGREE PROGRAM IN COMPUTER SCIENCE AND ENGINEERING	3
1.2 PH.D. DEGREE PROGRAM IN COMPUTER SCIENCE AND ENGINEERING.....	3
2. INTERNET RESOURCES	4
3. CSE TERMINAL MASTER'S DEGREE PROGRAM	4
3.1 REQUIREMENTS: MS/MSE DEGREE PROGRAM (TERMINAL MASTER'S DEGREE)	4
3.1.1. <i>MS/MSE Breadth Requirements (Terminal Master's Degree)</i>	5
3.1.2. <i>The VLSI/CAD master's kernel differs from the other areas as follows:</i>	5
3.1.3. <i>Technical Coursework</i>	5
3.1.4. <i>Course Equivalency</i>	5
3.1.5. <i>Transfer of Credit</i>	5
3.1.6. <i>Master's Thesis Option</i>	6
3.2. ACADEMIC ADVISING.....	6
3.3. MASTERS PLAN OF STUDY.....	6
4. APPLYING TO GRADUATE WITH THE MASTER'S DEGREE	6
5. TRANSFERRING FROM TERMINAL MASTER'S TO PH.D. PROGRAM	7
6. CSE PH.D. DEGREE REQUIREMENTS.....	7
6.1. PH.D. CSE REQUIREMENTS OVERVIEW	7
6.1.1. <i>Ph.D. Timetable</i>	8
6.1.2. <i>Qualification</i>	8
6.1.2.1. <i>Ph.D. Breadth Coursework</i>	8
6.1.2.2. <i>Ph.D. Depth Coursework</i>	9
6.1.2.3. <i>Directed Study and Research Potential</i>	9
6.1.2.4. <i>Preliminary Examination</i>	10
6.1.3. <i>Candidacy</i>	10
6.1.4. <i>Dissertation Committee</i>	11
6.1.5. <i>Thesis Proposal</i>	11
6.1.6. <i>Dissertation and Final Defense</i>	11
6.2. PH.D. RESEARCH ADVISOR	12
6.3. CSE MS/MSE DEGREE REQUIREMENTS FOR CSE PH.D. STUDENTS	12
7. NON-DEGREE (NCFD) STUDENTS.....	13
8. POLICY FOR DROPPING COURSES.....	13
9. ADDITIONAL INFORMATION AND FORMS.....	13

1. OVERVIEW OF THE CSE GRADUATE PROGRAMS

At the Graduate Level: All graduate CSE degrees are offered under the rules of the Rackham School of Graduate Studies. This document covers the CSE Graduate Degree Programs: the Master's Degree Program and the Ph.D. Degree Program.

The CSE Graduate Committee is the governing committee for all CSE academic degrees and students. The CSE Programs fall under the College of Engineering Honor Code. Please see the College website for details (<http://www.engin.umich.edu/>).

1.1 Terminal M.S./M.S.E. Degree Program in Computer Science and Engineering

The Master's degree program is administered by the Computer Science and Engineering Division of the Department of Electrical Engineering and Computer Science. In addition to satisfying the rules of the CSE Graduate Program (covered in this document), a student must also satisfy the regulations of the Rackham School of Graduate Studies and the College of Engineering. For details see the Rackham Website: <http://www.rackham.umich.edu/>.

The M.S. and M.S.E. degree programs are identical except for admission requirements. Students desiring admission to the M.S.E. program must have an earned bachelor's degree in computer engineering. Application procedures and the principal requirements for the M.S.E. and M.S. degree programs are described in detail on our web page: <http://www.eecs.umich.edu>.

A student must earn at least 30 credit hours of graduate level coursework, of which at least 24 hours must be technical courses. At least 15 hours must be CSE coursework at the 500 level or above (excluding credit hours earned in individual study, research or seminar courses). The student must also satisfy course requirements in "breadth" areas of software, hardware, artificial intelligence and theory. A maximum of six (6) credit hours of individual study, research and seminar courses will be accepted toward the master's degree. The VLSI/CAD concentration has different course requirements. It usually takes 1 1/2 to 2 years to complete the master's degree (3-4 full terms).

The Program requires that the Grade Point Average received in CSE coursework must be at least 3.0 based on Rackham's 4.0 scale. An individual course grade of B- or better is required for the credit hours received in any course to be counted towards any master's degree requirement. A master's thesis is optional. Credit hours transferred may be applied to meet any master's degree requirement except the 15 credit hours of 500 level CSE coursework required. (Rackham specifies limitations to the circumstances under which credits may be transferred. See the *Rackham Graduate School Academic Policies*: <http://www.rackham.umich.edu>.) Courses of an insufficiently advanced level, or which substantially duplicate in level and/or content courses already completed by the student, may not be counted as meeting any master's degree requirements.

1.2 Ph.D. Degree Program in Computer Science and Engineering

The doctoral degree in Computer Science and Engineering is conferred by the Rackham Graduate School in recognition of marked ability and scholarship in some relatively broad field of knowledge, plus the demonstrated ability to carry out independent research yielding significant original results.

The doctoral program proceeds in three stages: (1) qualification (see Section 6.1) (2) candidacy (there are both departmental and Rackham requirements for achieving candidacy) and (3) dissertation (writing and defense of the dissertation). Candidacy signifies that course work is essentially completed and some research has been started. Successful completion and defense of the doctoral dissertation marks the completion of the requirements for the Ph.D. degree.

2. INTERNET RESOURCES

The *Rackham Student Handbook* and the *Engineering College Bulletin* are among the numerous UM publications available online. The *Rackham Student Handbook* gives details about the Ph.D. degree requirements imposed by the Graduate School, and should be consulted by all Ph.D. students, particularly in regard to questions about continuous enrollment, fees, cognates, etc. All EECS course descriptions are available online at: <http://www.eecs.umich.edu/eecs/academics/courses.html>.

The EECS website is: <http://www.eecs.umich.edu>

The Rackham website is: <http://www.rackham.umich.edu>

The College of Engineering website is: <http://www.engin.umich.edu/>

3. CSE TERMINAL MASTER'S DEGREE PROGRAM

3.1 Requirements: MS/MSE Degree Program (Terminal Master's Degree)

A CSE Terminal Master's student may earn a CSE MS/MSE degree by successful completion of the following:

- (1) The Rackham requirements;
- (2) The Master's Breadth Requirements including both course and grade requirements;
- (3) The required 30 hours of graduate level credit, which must include:
 - (a) at least 24 credit hours of approved graduate-level technical courses;
 - (b) at least 15 credit hours of CSE technical courses at the 500 level or above
 - (c) up to six credit hours of seminar courses (e.g., EECS 598) and directed study courses, special topics, etc. (e.g., EECS 599).

Courses of insufficiently advanced level, or which substantially duplicate in level and content courses already completed by the student may not be counted as meeting any degree requirement.

400-level special topics (EECS 498), independent study (EECS 499), and MDE courses (EECS 496/497, 441, etc.) are not considered graduate-level technical courses for CSE students. For a list of graduate-level CSE courses see the attachment "EECS Courses".

EECS 598 (Special Topics) courses intended to become regular CSE technical courses may be approved by the Graduate Program Committee to count under category (3b) rather than (3c). These are determined on a case-by-case basis.

EECS 699 (Research Work in EECS) credits will not count toward the CSE Terminal Master's degree program.

An individual course grade of B- or better is required for the credit hours received in any course to be counted towards any master's degree requirement. Rackham requires the overall GPA among all courses applied to the master's degree to be at least 3.0 based on Rackham's 4.0 scale. In addition to this, the CSE Program requires that the Grade Point Average received in CSE coursework must be at least 3.0 based on Rackham's 4.0 scale. (No letter-graded courses taken as S/U may be used toward any degree requirement.)

Students who enter without an undergraduate engineering degree receive an M.S. degree. Students who enter with an undergraduate engineering degree have a choice of either the M.S. or M.S.E. degree.

3.1.1. MS/MSE Breadth Requirements (Terminal Master's Degree)

The CSE Master's degree program requires students to complete certain "master's breadth" course requirements. The purpose of the breadth requirement is to give the student broad training in the major areas of computer science and engineering.

Students must complete one breadth course (in some cases, two courses) in each of the following technical areas:

- a. Hardware: EECS 427, EECS 470, EECS 473, EECS 478, EECS 527, EECS 570, EECS 573, EECS 577, EECS 578, EECS 579, EECS 583, EECS 627.
- b. Artificial Intelligence: EECS 543, EECS 545, EECS 592
- c. Software: (must complete one 500-level or two 400-level courses from this list)
EECS 482, EECS 483, EECS 484, EECS 485, EECS 487, EECS 489, EECS 490, EECS 571, EECS 582, EECS 583, EECS 584, EECS 587, EECS 588, EECS 589, EECS 590, EECS 591
- d. Theory: EECS 574, EECS 575, EECS 586.

3.1.2. The VLSI/CAD master's kernel differs from the other areas as follows:

VLSI/CAD students are required to take both EECS 427 and EECS 627.

In addition, students must complete two of the four master's kernel options listed above (a, b, c, or d). However, EECS 427 and/or EECS 627 cannot be used to fulfill the hardware kernel option. One of the chosen 500-level courses must be from the following list: EECS 522 **or** EECS 523, EECS 527, EECS 578, EECS 579.

3.1.3. Technical Coursework

A "technical course" is a lecture based class that requires a rigorous combination of homework, exams and/or projects (i.e., not an individual study, research, or seminar course). The course must be an established course that conveys a specified body of material, taught by a regular EECS faculty member and approved for Rackham graduate credit.

3.1.4. Course Equivalency

Courses taken at another university that are equivalent in level and content may be used to fulfill one or more of the breadth course requirements provided the student is awarded equivalency for that course. In general, equivalency does not fulfill any other degree requirements, in particular, credit-hour requirements. Forms to request equivalency, including the instructions/procedures, and are available in the CSE Graduate Programs Office or at the end of this document.

3.1.5. Transfer of Credit

Credit hours transferred may be applied to meet any master's degree requirements except the 15 credit hours of 500 level or above CSE coursework. Rackham specifies limitations to the circumstances under which credits may be transferred.

See the *Rackham Student Handbook* at: <http://www.rackham.umich.edu>

3.1.6. Master's Thesis Option

The option of writing a Master's thesis is available to master's students in good academic standing. A student wishing to exercise this option may initiate the process by taking the following two steps. He/she must: a) find a CSE faculty member willing to serve as thesis advisor; b) enroll under the master's thesis course number (EECS 698) for one to six credit hours. (EECS 698 will not count for technical credit hours.) These credit hours may be spread over more than one term, and are graded on an S/U basis.

The thesis advisor is responsible for supervising the work of the master's thesis project, and choosing the master's thesis committee. This committee shall consist of the thesis advisor who serves as chair, and two additional faculty members, and must be approved by the CSE Graduate Program Committee. At least two of the three thesis committee members must be a regular CSE faculty (CSE tenure-track faculty with at least a 50% appointment in CSE).

The student must write and deposit with the department a written thesis whose format is substantially consistent with the Rackham format requirements for theses. An oral presentation and defense of the thesis before the thesis committee is also required. Each member of the thesis committee must submit a written report on the thesis, and approval of the thesis by all members is required.

3.2. Academic Advising

A list of CSE faculty currently serving as master's advisors will be provided to incoming master's students prior to the first day of fall term classes. Each student must contact a faculty member from that list for advice and approval of the master's plan of study.

3.3. Masters Plan of Study

In consultation with the advisor, each student must submit a "Master's Plan of Study" (approved by his/her academic advisor) during the first term of enrollment. This plan must contain a listing of the courses the student intends to take to satisfy the degree requirements and must constitute a coherent program at an appropriate level. The Master's Plan of Study is intended as a guide to the student and program advisor. **Final responsibility for ensuring that degree requirements are satisfactorily met rests with the student.** Forms are available in the CSE Graduate Programs Office or at the end of this document.

4. APPLYING TO GRADUATE WITH THE MASTER'S DEGREE

At the beginning of the term in which you expect to receive your master's degree you will need meet with CSE Graduate Coordinator, and review your academic record. To do so you need to bring: a) a copy of the confirmation of graduation application (it is submitted on-line through Wolverine Access, so you will need to bring a printed copy with you when you meet with the Graduate Program Coordinator); b) an approved and current Master's Plan of Study (if an up to date version is not on file in the CSE Graduate Programs Office). This form may be found at the end of this document or obtained from the CSE Graduate Programs Office.

You must have this meeting for your degree to be processed (please do not hand in the forms without meeting with Graduate Program Coordinator). You must complete the above procedure by at least one week before the posted Rackham deadline for submission.

5. TRANSFERRING FROM TERMINAL MASTER'S TO Ph.D. PROGRAM

Students currently in the terminal master's who wish to transfer to the Ph.D. Program should submit an application for admission to the Ph.D. Program. The deadline for applying for Fall Term is December 15 of the previous year. General information about the application process, including a link to the Rackham online application site, is available at <http://www.cse.umich.edu/eecs/graduate/cse/apply/>. You will need to submit the application, a statement of purpose, and arrange for letters of recommendation.

As you are already in the terminal master's degree program, it is expected you will have recommendation letters from Michigan faculty. Furthermore, your application must be sponsored by a particular CSE faculty member who has advised you on a substantial research project and is willing to supervise your Ph.D. research. Your application will be evaluated on the overall record, with special attention to performance in the CSE MS/MSE program and demonstrated research potential at Michigan.

6. CSE Ph.D. DEGREE REQUIREMENTS

6.1. Ph.D. CSE Requirements Overview

Students should note the general requirements for graduate studies stated on <http://www.rackham.umich.edu> as well as the requirements stated in this brochure. It is the student's responsibility to ensure that all requirements are satisfactorily met.

A student earns a CSE Ph.D. in three stages:

- (1) **Qualification** for the CSE Ph.D. requires the following:
 - Breadth Coursework
 - Depth Coursework
 - Directed study Coursework/Research
 - Preliminary Examination
 - Reciprocal working relationship with an EECS Faculty member (research advisor)

- (2) **Candidacy** for the Ph.D. requires the following:
 - Successful qualification in the CSE Program.
 - Completion of all Rackham requirements for Candidacy, including the 4-hour cognate requirement. (Beginning Fall 2014, Rackham requires that all Responsible Conduct of Research and Scholarship (RCRS) requirements must be met before candidacy).

- (3) **Dissertation** and defense:
 - Identify a research advisor, and agree on a topic.
 - Identify a doctoral committee.
 - Submit and defend a proposal for the content of the doctoral research.
 - Do the research and write the dissertation.
 - Submit and defend the dissertation.

6.1.1. Ph.D. Timetable

These are guidelines/deadlines for maintaining normal progress toward the degree. To stay in the Ph.D. program after a * deadline requires a petition (with advisor's approval) and a waiver from the CSE Graduate Program Committee.

Number of full semesters after entry when you are expected to have achieved a particular milestone in the program.
(* = waiver required from Grad Program Committee to continue)

	Enter Without Relevant Masters	Enter With Relevant Masters
Entry	0	0
Quals	4*	3*
Candidacy	5(6*)	3(4*)
Proposal	7*	5*
Defend	12*	10*

Prelim exams (part of Qualls) are scheduled only in mid-September, mid-January, and mid-May.

CSE Ph.D. Deadlines

Entering with Bachelor's	Entry Date Fall 2017	Entry Date Fall 2018	Entry Date Fall 2019	Entry Date Fall 2020	Entry Date Fall 2021	Entry Date Fall 2022	Entry Date Fall 2023
Quals	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024	May 2025
Candidacy	May 2020	May 2021	May 2022	May 2023	May 2024	May 2025	May 2026
Thesis Proposal	December 2020	December 2021	December 2022	December 2023	December 2024	December 2025	December 2026
Completion	May 2023	May 2024	May 2025	May 2026	May 2027	May 2028	May 2029

Entering with Master's	Entry Date Fall 2017	Entry Date Fall 2018	Entry Date Fall 2019	Entry Date Fall 2020	Entry Date Fall 2021	Entry Date Fall 2022	Entry Date Fall 2023
Quals	January 2019	January 2020	January 2021	January 2022	January 2023	January 2024	January 2025
Candidacy	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024	May 2025
Thesis Proposal	December 2019	December 2020	December 2021	December 2022	December 2023	December 2024	December 2025
Completion	May 2022	May 2023	May 2024	May 2025	May 2026	May 2027	May 2028

6.1.2. Qualification

Qualification is based on all of the following which must be successfully completed by each student's individual qualification deadline. A Ph.D. student must have a 3.5 GPA overall and a 3.5 GPA for all CSE courses to sign up for the qualification exams.

6.1.2.1. Ph.D. Breadth Coursework

Breadth: Three courses from three different technical areas, drawn from a specified list of technical areas and approved courses (attached), completed with a grade of B+ or better. Equivalency is possible.

Courses selected to fulfill the CSE Ph.D. Breadth requirement may not also be used to fulfill the CSE Ph.D. Depth requirement. All Ph.D. breadth courses must be completed with a grade of B+ or better within 3 full terms (1 1/2 years) for a student with a relevant Master's degree and 4 full terms for all other students. Courses taken at another university that are equivalent in level and content may fulfill one or more of these requirements. A list of approved courses may be found at the end of this document, in the appendix.

6.1.2.2. Ph.D. Depth Coursework

Depth: two courses from a specified list of courses (attached), including at least one "star" course, completed with a grade of A- or better. These courses may not be completed via equivalency.

The "Depth" coursework requirement is designed to ensure that students complete graduate-level coursework relevant to their chosen area of specialization and acquire the core research skills and knowledge of the literature relevant to this specialization. Students must complete 2 courses, achieving a minimum grade of A- in each. These courses may **not** be completed via equivalency. At least one of the courses must be a "star" course, marked with an asterisk in the list appearing at the end of this brochure. The selected courses must be approved by the student's research advisor; a signed Depth Course Approval form must be submitted when signing up for the qualification exam (by the deadline). A list of approved courses may be found at the end of this document, in the appendix.

6.1.2.3. Directed Study and Research Potential

A commitment from an approved EECS Faculty to act as one's research advisor is a requirement of qualification.

A Ph.D aspirant must demonstrate potential for conducting original research. This may be accomplished by completing at least three hours of research-oriented directed study (EECS 699) prior to the Preliminary Exam. These must be taken as a Rackham CSE student at UM. (Alternatively, this requirement may be satisfied by six credit hours for a UM CSE Masters Thesis (EECS 698).)

A Ph.D student must complete at least one of the three required credits of EECS 699 (directed study) within their first two terms of the Ph.D program, or have their academic or research advisor sign a waiver of this requirement. Students must submit a form documenting their directed study/waiver by the course registration Drop/Add deadline of their second semester.

During their first summer in the PhD program, students are required to remain resident in Ann Arbor and perform independent research in collaboration with a CSE faculty member. The intent of this summer research requirement is to provide adequate opportunity for students to work closely with a research advisor to prepare to take the qualifying exam before their qualification deadline. The first-year summer research/residency requirement is a condition of continued departmental financial aid guarantees and can be waived only by petition to the graduate program committee with an explanation of special circumstances (e.g., a research-oriented internship directly relevant to the student's qualifying exam preparation) endorsed by the student's academic or research advisor. This requirement does not apply to students who transfer from a terminal MS to the PhD program more than one calendar year after entering the MS program.

6.1.2.4. Preliminary Examination

Preliminary Exam: Research readiness is evaluated through a written report of a project done in a research-oriented directed study, followed by a 90 minute oral exam by three faculty members not including one's research advisor.

The Preliminary Examination (Prelim) is a major component of the Ph.D. qualification process. Each student will be given an oral examination on the student's directed study project and on material directly related to the student's research area. This examination will be administered during the qualification examination period in mid-January, mid-May or mid-September. The examination will be given by three faculty members selected by the CSE Graduate Program Committee. None will be the director of the students' directed study project. Examiners will be given the written report on the directed study at least one week before the examination, and each examiner will submit a written report on the examination. The student must submit four copies of the written report to the CSE Graduate Coordinator at least one week before the qualification exams begin.

The Preliminary Exam is scheduled for a 90-minute time slot. The student presentation should be about 40 minutes or less, with the remaining minutes to be used for questions.

Once all the above requirements for Qualification have been met, a decision whether the student is qualified to continue in the Ph.D. program is made by vote of the CSE faculty.

6.1.3. Candidacy

The decision to advance a student to Candidacy is based on the following factors:

1. Successful completion of the CSE Qualification process.
2. Fulfillment of all Rackham candidacy requirements (e.g. cognate coursework, RCRS, etc.)

A student may satisfy the Ph.D. cognate requirement (at least 4 hours of graduate-level course work) by taking course(s) associated with another EECS program (not his/her own), by taking course(s) outside the department, or by a mixture thereof. Courses taken from other programs cannot overlap in content with any CSE course related material. Any course in question must have prior approval of the CSE Graduate Program Committee.

To become a "Candidate", a student must have been declared "qualified" by the CSE Program, and must have satisfied all of the CSE Program's and Rackham's candidacy requirements (beginning Fall 2014, Rackham requires that all RCRS requirements are met before candidacy). A student must apply for candidacy by submitting the "CSE Candidacy Checklist" via the CSE Graduate Office. These requirements and the form must be submitted before the term before you plan to become a candidate. Candidacy is not awarded automatically; it must be applied for.

The achievement of candidacy is considered an important milestone in a Ph.D. student's progress, and all students are expected to apply for candidacy as soon as they are eligible. A student with a relevant Master's degree is making satisfactory progress if candidacy is achieved within 3 full terms (1.5 years), and must be achieved within 4 full terms (2 years). Other students are making satisfactory progress if candidacy is achieved within 5 full terms (2.5 years), and must be achieved within 6 full terms (3 years). A student without adequate undergraduate coursework in CSE may petition for an extension to these deadlines; however, that petition must be made to the Graduate Program Committee before the end of the first term of study.

6.1.4. Dissertation Committee

Soon after admission into candidacy, the candidate and his or her advisor should form a Dissertation Committee and submit it to the CSE Graduate Program Committee for preliminary approval. The CSE form to request approval is available on CSE Graduate Web Site: <http://www.eecs.umich.edu/eecs/graduate/cse/csegradpage.html>.

This request form must be first approved by the students' chair (or co-chairs). Once approved by the CSE Graduate Program Committee, it will be forwarded to the Rackham Graduate School for their approval. Normally the research advisor serves as chair or co-chair of this committee. It is the responsibility of the student and the advisor to find eligible faculty members willing to serve.

A typical CSE Dissertation Committee consists of three regular CSE faculty and one cognate Rackham faculty member representing a non-CSE discipline. The committee's composition must be approved by the CSE Graduate Program Committee.

In addition to complying with all the Rackham requirements the CSE Graduate Program requires that: one member of the committee must be a tenure-track CSE faculty with at least 50% appointment in CSE, and a second member must have a CSE appointment exceeding 50%. A faculty member with a 50% or higher CSE appointment may not serve as the Cognate member of the committee.

A CSE faculty member with a 0% appointment can serve as sole chair of a committee. A CSE faculty member with a 0% appointment can be a cognate member of a committee, however one person cannot be both a cognate and regular (non-cognate) member of the same committee. The Dissertation Committee is responsible for reviewing the student's progress, including the thesis proposal and the final dissertation. The dissertation committee must be approved at least one month before the thesis proposal date.

6.1.5. Thesis Proposal

After a student achieves candidacy, a thesis (dissertation) proposal must be successfully completed by a candidate within 7 full terms (3.5 years) from the start of graduate study to maintain satisfactory progress. A student with a relevant master's degree must complete a thesis proposal within 5 full terms (2.5 years). The thesis proposal will be administered by the Dissertation Committee (see above). The student will submit a dissertation research proposal to the Dissertation Committee at least two weeks in advance of the date of an oral presentation. In the written proposal, the student must precisely identify the intellectual area in which he or she intends to pursue research and must demonstrate an in-depth understanding of that area. The student must give a general description of the research problem to be addressed and an outline of the approach that will be taken. It is desirable that the research problem be specified in considerable detail and that some initial results be presented. During the oral presentation, the student will present the proposed dissertation research, including relevant background material and preliminary research results. During and after the presentation, the Dissertation Committee will explore the research area with the student to determine whether the student has completed this phase successfully. The Dissertation Committee will prepare a written report on the outcome of the proposal presentation, and a copy of the written proposal will be placed in the student's file.

6.1.6. Dissertation and Final Defense

After the thesis proposal has been approved, the candidate may proceed with the thesis research and the writing of the dissertation. Upon completion, the dissertation must receive a written evaluation from each member of the Dissertation Committee and must be defended orally in an open examination (the Final Defense) before the Committee, in accordance with Rackham rules. The thesis defense may not be scheduled in the same academic term as the thesis proposal. (<http://www.rackham.umich.edu>)

6.2. Ph.D. Research Advisor

An incoming graduate student will be assigned an *academic* advisor (a regular faculty member in the CSE program) in his/her area of interest. Students already in the CSE master's degree program may continue with the same academic advisor. The academic advisor will assist the student with meeting the academic requirements of the degree.

A student's *research* advisor, chosen through **mutual agreement** between the student and the faculty member, will guide and counsel the student on the research and academic planning for, and completion of, the Ph.D. degree.

The advisor (academic and/or research) may subsequently change by mutual agreement. (Forms are available on the CSE Program Website or in the CSE Graduate Office.)

If the research advisor is a regular tenure-track CSE Faculty, they may assume the role of both research and academic advisor. If your research advisor is outside of the CSE regular faculty, the CSE faculty academic advisor will remain.

A commitment from a CSE tenure-track faculty to act as a research advisor is a requirement of qualification/candidacy and satisfactory progress toward the degree.

6.3. CSE MS/MSE Degree Requirements for CSE Ph.D. Students

A CSE Ph.D. student (entering without a relevant master's), has the option of earning a CSE MS/MSE degree by completion of the following:

- (1) Completing the Rackham requirements for the master's;
- (2) Completing the Breadth and Depth requirements of the CSE Ph.D. program, including both course and grade requirements;
- (3) Filling out the required 30 hours of graduate level credit with some combination of approved graduate-level technical courses and research credits, i.e. EECS 699.

400-level special topics (EECS 498), independent study (EECS 499), and MDE courses (EECS 496/497, 441, etc.) are not considered graduate-level technical courses for CSE students. For a list of graduate-level CSE courses, see the attachment "EECS Courses".

A typical Ph.D. Student will take 5 courses (15-20 credits) to complete the Ph.D. Breadth/Depth requirements and fill the remaining credit hours through Ph.D.-oriented research (EECS 699).

An individual course grade of B- or better, is required for the credit hours received in any course to be counted towards any master's degree requirement. Rackham requires the overall GPA among all courses applied to the master's degree to be at least 3.0 based on Rackham's 4.0 scale. In addition to this, the CSE Program requires that the Grade Point Average received in CSE coursework must be at least 3.5 based on Rackham's 4.0 scale. (No letter-graded courses taken as S/U may be used toward any degree requirement.)

Students who enter without an undergraduate engineering degree receive an M.S. degree. Students who enter with an undergraduate engineering degree have a choice of either the M.S. or M.S.E. degrees.

7. NON-DEGREE (NCFD) STUDENTS

The CSE Division will occasionally admit qualified students who are not candidates for a degree (NCFD students) to enable them to take graduate courses. Such students typically have a full-time job in a local industry or business in Southeastern Michigan and take relatively few courses. A student who is interested in a graduate degree program is strongly encouraged to apply as a regular graduate student, and not as an NCFD student. Note that courses taken by a student under NCFD status may *not* be subsequently used for a graduate degree. NCFD status is only granted for one term at a time.

8. POLICY FOR DROPPING COURSES

The Registrar's Office and the Rackham Graduate School determine the policy for dropping courses. Courses may be dropped or changed to Visit status only under exceptional circumstances and with the approval of the course instructor, advisor, and the graduate chair of the program. The specific student registration deadline dates are posted on the Registrar's Office website (<http://ro.umich.edu/calendar>). The Rackham Graduate School rules for dropping courses also apply (see the *Rackham Student Handbook* <http://www.rackham.umich.edu>).

9. ADDITIONAL INFORMATION AND FORMS

Various current forms such as the CSE Graduate Courses list, the master's degree plan of study, etc. are also available on the CSE Graduate Website:
http://www.cse.umich.edu/eecs/graduate/cse/cse_current.html

Forms included:

For Terminal Masters Students:

- CSE Terminal Masters Plan of Study
- CSE Terminal Masters Plan of Study in VLSI

For Ph.D. Students:

- First Year Directed Study Requirement Form
- Qualification Sign Up Form
- CSE Candidacy Checklist for the Ph.D. Program
- CSE Ph.D. Student Masters Plan of Study
- CSE Dissertation Committee Request Form

For All Students:

- CSE Petition Request Form
- Request for Equivalency
- Notification of Advisor and/or Area Change
- EECS Course List

Computer Science and Engineering Program

**FIRST YEAR PH.D.
DIRECTED STUDY REQUIREMENT**

Note: The academic and/or research advisor must endorse this request. Please submit completed and signed requests to the CSE Graduate Programs Office (3909 Beyster) prior to the end of the first three weeks of your second academic term.

Type or print your name and your mailing address:

Name _____ UMID# _____

Address _____

e-mail _____

Degree level _____ Term Admitted to Program _____

FIRST YEAR PH.D. DIRECTED STUDY REQUIREMENT

Is being fulfilled by working with _____

during _____ term.

What are your plans for your first Summer term?

WAIVER REQUEST

I have met with my advisor and with his/her approval am requesting a waiver for the first year (1 hr.) directed study requirement. I will complete this requirement within the next academic term:

Signature of Student _____ Date _____

Academic Advisor Name (print and sign): _____

Research Advisor Name (print and sign): _____



Computer Science and Engineering Graduate Program Dissertation Committee Request Form

To: Professor John Laird, Graduate Program Chair

From:

Name

Mailing address

City/State/Zip

Student ID#

email address

Subject: Dissertation Committee Approval

Please consider the following professionals for my Dissertation Committee.

Chair/Co-Chairs

Name and UM email address

Title

Department

Name and UM email address

Title

Department

Cognate member

Name and UM email address

Title

Department

Other member(s)

Name and UM email address

Title

Department

Name and UM email address

Title

Department

Name and UM email address

Title

Department

If a committee member is not a tenure-track Rackham faculty member, please attach their C.V. and a paragraph/statement regarding their qualification for serving on your committee.

Approval of Chair/Co-Chairs _____ Date: _____

_____ Date: _____

For department use only. Circle one:

Dissertation Committee is/ is not approved.

CSE Grad Prog Chair : _____ Date: _____

Computer Science and Engineering Graduate Program Dissertation Committee Request Form Page 2

CSE Guidelines for the CSE Dissertation Committee

A typical CSE Dissertation Committee consists of three regular CSE Faculty and one cognate Rackham Faculty member representing a non-CSE discipline. The committee's composition must be approved by the CSE Graduate Program Committee.

In addition to complying with all the Rackham requirements the CSE Graduate Program requires that: one member of the committee must be a tenure-track CSE faculty with at least 50% appointment in CSE, and a second member must have a CSE appointment exceeding 50%. A faculty member with a 50% or higher CSE appointment may not serve as the Cognate member of the committee.

A CSE faculty member with a 0% appointment can serve as sole chair of a committee. A CSE faculty member with a 0% appointment can be a cognate member of a committee, however one person cannot be both a cognate and regular (non-cognate) member of the same committee. The Dissertation Committee is responsible for reviewing the student's progress, including the thesis proposal and the final dissertation. The dissertation committee must be approved at least one month before the thesis proposal date.

01/2015

**Computer Science and Engineering Graduate Program
PETITION REQUEST**

PETITION TO THE CSE GRADUATE COMMITTEE

Request for extension of deadline for completion of milestones (e.g. Qualifying examinations, thesis proposal, etc.) or other special requests.

Directions: The student should provide an explanation of why the deadline cannot be met as scheduled; what work remains; and by what date (month/year) it can be completed. The academic advisor and/or research advisor must endorse the request before forwarding it to the Graduate Committee. Return this completed form to the CSE Graduate Office, 3909A BBB.

Type or print your name and your mailing address:

Name _____ UMID# _____

UM e-mail _____

Degree level _____ Term Admitted to Program _____

Brief description of your petition request:

**OR TYPE YOUR REQUEST ON A SEPARATE SHEET AND ATTACH TO THIS FORM.
(student and advisor must also sign the attached request)**

Signature of Student _____ Date _____

I (do) (do not) support this petition.

Academic Advisor Name (print and signature): _____

I (do) (do not) support this petition.

Research Advisor Name (print and signature) (if applicable): _____

I (do) (do not) support this petition.

Graduate Committee Decision: _____

Graduate Chair: _____ Date _____

COMPUTER SCIENCE AND ENGINEERING
REQUEST FOR COURSE EQUIVALENCY FOR BREADTH REQUIREMENTS

Instructions to the student: Please complete and sign this form and take it to the UM Faculty member responsible for the UM course in question. Obtain your advisor's signature and return the form to the CSE Graduate Coordinator in 3909A BBB.

Equivalency can be accepted for breadth coursework requirements only.
(Do not use this form for cognate course requirements.)

1. Student Name: _____ ID: _____

2. UM Course for which equivalency is requested (Number and title):

3. Course taken elsewhere to be considered for equivalency:

University that the course was taken at: _____

Course Number and title: _____

Credit Hours: _____

Grade earned: _____

STUDENT SIGNATURE: _____ Date _____

4. UM Faculty Member teaching equivalent course: _____

url for past teaching assignments for EECS courses: <http://www.eecs.umich.edu/eecs/undergraduate/pastteaching.pdf>

This section to be filled out by the faculty member reviewing materials:

5. Course information reviewed by UM faculty member:

_____ 1) Course outline

_____ 2) Course catalog description

_____ 3) Course notes, assignments, tests

_____ 4) Course pack

_____ 5) Transcript copy

_____ Other _____

This course is equivalent for purposes of Masters requirements _____

This course is equivalent for purposes of Ph.D. breadth requirements

(please make sure grade is equal to B+ or better) _____

SIGNATURE OF FACULTY MEMBER: _____ Date: _____

SIGNATURE OF ACADEMIC ADVISOR: _____ Date: _____

**Return form to CSE Graduate Coordinator in 3909A BBB

APPROVAL OF CSE GRADUATE CHAIR: _____

Date: _____

CSE
NOTIFICATION OF ADVISOR CHANGE

STUDENT NAME _____ ID _____

UM Email _____

I am requesting a change of advisor.

My current **academic / research** advisor is _____.
(circle appropriate choice)

My new **academic / research** advisor will be _____.
(circle appropriate choice)

Student Signature: _____ Date _____

Previous Advisor: _____ Date _____

New Advisor: _____ Date _____

Ph.D. Degree Requirements:					EECS Courses and CSE Degree Requirements List							Terminal Master's Requirements:						
Depth	Depth starred	Breadth			Credits	Term Offered	Approved for Cognate by CSE	CSE Course Graduate Level	Not CSE Grad level cannot be used in any capacity toward a CSE Grad Degree	CSE 500 Level	Technical Elective	Hardware	Software	Artificial Intelligence	Theory	VLSI		
		Hardware	Software	Artificial Intelligence													Theory	
EECS Courses																		
					3		530				x							
					3		531				x							
					3		532				x							
					3		533											
					3		535				x							
					3		536				x							
					3		537				x							
					3		538				x							
					3		539				x							
					3		540				x							
					3		541				x							
D542					3	F		542	542	x								
					3	F		543	543	x			I 543					
					3													
D545			A545		3	F, W		545	545	x				I 545				
					3		546			x								
D547					3	F		547	547	x								
					3			548	548	x								
					3			549	549	x								
					3					x								
					4		551			x								
					3		552			x								
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					3		561			x								
					3		562			x								
					3		564			x								
					3		565			x								
					3		566			x								
D567					3			567	567	x								
D568					4	W		568	568	x								
					3		569			x								
D570	D*570	H570			4	W		570	570	x	H 570							
D571	D*571		S571		4	F		571	571	x		S 571						
D573	D*573	H573			3	F		573	573	x	H 573							
D574	D*574			T574	4	F		574	574	x				T 574				
D575	D*575			T575	4	W		575	575	x				T 575				
D576	D*576		S576		4	W		576	576	x		S 576						
D578	D*578	H578			4	F or W		578	578	x	H 578				V 578			
D579	D*579	H579			4	F or W		579	579	x	H 579				V 579			
					4	W		580	580	x								
D582	D*582		S582		4	F		582	582	x		S 582						
D583	D*583	H583	S583		4	F		583	583	x	H 583	S 583						
D584	D*584		S584		4	F		584	584	x		S 584						
D586	D*586			T586	4	W		586	586	x				T 586				
			S587		4	F		587	587	x		S 587						
D588	D*588		S588		4	W		588	588	x		S 588						
D589	D*589		S589		4	F		589	589	x		S 589						
D590	D*590		S590		4	F		590	590	x		S 590						
D591	D*591		S591		4	W		591	591	x		S 591						
				A592	4	F, W		592	592	x			I 592					
D594					3			594	594	x								
D595					3	F		595	595	x								
					1-6				596									
D597					3	W		597	597	x								
					1-4	varies			598									
					1-4	F, W			599									
					3		600											
					4		620			x								
D627		H627			4			627	627	x	H 627				V 627			
D628	D*628				3-4			628	628	x					V 628			
					3		631			x								
					3		632			x								
					3		633			x								
					3		634			x								
					3		638			x								
D643					2-4			643	643	x								
D644					2-4			644	644	x								
					3		650			x								
					3		659			x								
					3		662			x								
					3	varies		670										
					3			674										
					3			682										

