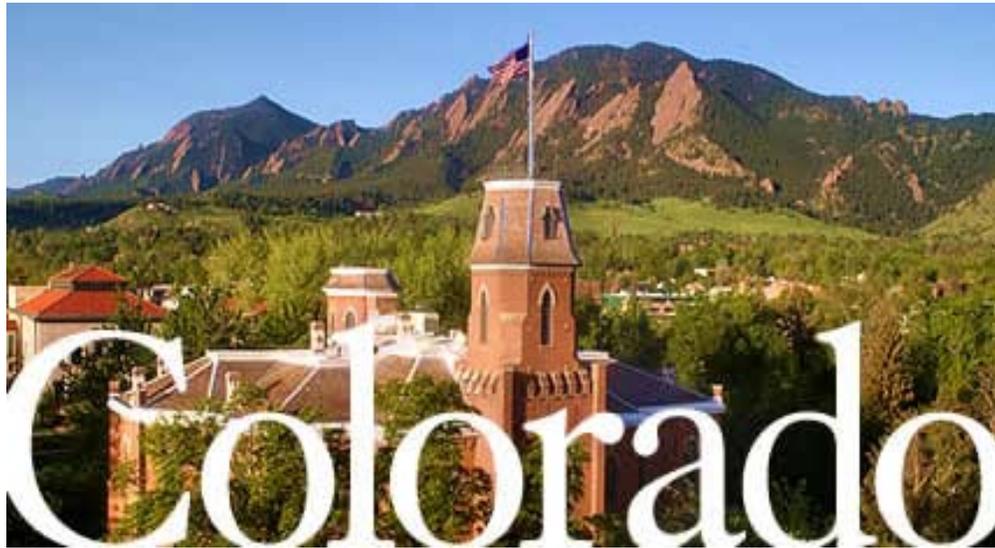


ELECTRICAL, COMPUTER, & ENERGY ENGINEERING



GRADUATE STUDY GUIDE FALL 2015 – SPRING 2016



University of Colorado at Boulder
Department of Electrical, Computer & Energy Engineering
Graduate Office

Campus Box 425
Boulder, Colorado 80309-0425
PH: (303) 735-0490; FAX: (303) 492-2758
<http://ecee.colorado.edu/>

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1. APPLICANT/STUDENT RESPONSIBILITIES

Do these three to succeed:

1.1 Read. Carefully. Thoroughly.

1.2 Consult with faculty advisors *each and every* semester *prior to* enrolling. Mutually sign off on agreed schedule changes on a degree plan form. **Contact as early as possible, in the semester**, about *any* concerns, problems, attendance, not understanding lectures and/or homework.

1.3 **Meet posted/e-mailed deadlines**—especially for applying, for registering for major exams and for graduation.

NOTE: To be certain of the full, ECEE Graduate Student rules, please see our main web page, 2nd link from the bottom left-side, the 22-page “Graduate Studies Guide.” What you are reading here is a 12-page summary / abbreviated version with highlights of that more complete version.

2. FUNDING:

2.1 **Applicants to the degree-seeking program:** There is no separate application for funding; you are automatically considered side-by-side with all others who apply to the degree-seeking program—but only the best will ultimately receive such funding. Most offers are for at least a full academic year—with subsequent years also covered as long as you maintain strong academics and perform well in your TA and/or RA duties. ME’s can only be funded in hourly positions—but their “Professional Masters” tuition rates are lower than those of the other degree-seeking students; the same goes for CAETE/BBA (“Be Boulder Anywhere”) distance students: If your coursework is solely via distance learning, then your tuition is lower. However, you cannot work on campus.

2.2 **Current Students:** Most if not all Ph.D.s will work as RAs and TAs; Ph.D.s who do RA work will also twice do a Practicum (part of your ECEN 8990 thesis hour registration requirement): For a single semester, in your 1st year of study, you will learn grading and instruction work from a more senior TA, and in your 3rd year, will similarly teach a 1st-year.

2.3 **TA’s:** Will grade student quizzes, exams and homework, and will pre-test and maintain instructional lab equipment for individual faculty and their classrooms/labs; 15% or higher appointment includes tuition reimbursement and 20% or higher includes coverage of most student health care; a 50% appointment (20 hours of a 40-hour work week), includes a stipend significant enough to cover all living expenses;

2.4 **RA’s:** Same as above, but responsible for research lab equipment for faculty, yourself and lab mates. Ph.D. students: TAs do not get raises after preliminary or comprehensive exams; however, RAs receive nearly \$100 more/month after each required Ph.D. exam.

2.5 **Provisionally Admitted:** Can only rarely petition, with faculty support, to be permitted to work as TA or RA while under provisional status. They are supposed to focus exclusively on academics and earning strong grades and cumulative graduate gpa.

3. AFTER ADMISSION:

3.1 Visa Students:

Our Intl Admission office will provide the proof of finances procedural details once you are admitted. In turn, you must follow up on those (you can do so after you know whether our dept is funding you, or not (after 15 April)).

3.2 U.S. Citizens and Permanent Residents/Greencard holders/Refugees seeking asylum in the U.S.:

Please begin to establish residency as soon as possible—prior to the first day of classes:

To begin establishing residency (and hence, lower tuition) as soon as possible: Check in with Tuition Classification Office in **Regent Hall (Room #105; PH: 303-492-0907)** or go to <http://www.colorado.edu/registrar/state-tuition/criteria-establish-residency> to chat live, **prior to the first day of class**. . If you do not follow through with this, then you can lose your post-1st year TA or RA appointment. **After 365 days in Colorado** (seriously, 364 do *not* count): You can qualify for in-state tuition.

3.3 TAs and RAs:

1. Stop by Kelly Payton’s cubicle (in ECEE 1B55) to pick up work contracts with original signature, and
2. Fill out employee paperwork, then meet with instructors to learn details of what they expect of you
3. TA’s and RA’s please note that you should obtain Social Security #’s as soon as you can, if you do not already have one. (Visa students can NOT obtain a Social Security # without having a signed contract and other paperwork (issued by ISSS) permitting them to work in the U.S., and it can take up to 2-4 weeks after arriving, in order to obtain your number)

3.4 All Students:

Enroll in courses—in your first semester, it is perfectly natural that you might not get into your most sought-after course work (especially Embedded Systems); seniors have priority dates for enrollment. Please select two, grad-level, ECEN 5000+ courses that are sufficiently technical. You can always change these, just before the semester starts, up through the end of the 2nd week of classes, after consultation with your faculty advisor.

Drop courses if unable to attend, so you are not charged for unattended courses.

3.5 Provisionally admitted students:

Working full-time: Take one ECEN 5000+ level course, sufficiently technical, in each of first two semesters, earn 3.25 cumulative gpa

Studying full-time/Full-time student: Same as above, but take two such courses in each of your first two semesters.

4. DEGREE REQUIREMENTS

30 COURSE CREDIT HRS:		ME / MENG												
1	ECEN 5000+	3 course credit hrs/each	<p style="text-align: center;"><i>Can optionally take up to 5x EMEN 5000+</i></p> <table border="1"> <tr> <td>ECEN 5000+</td> <td>5M / NT5</td> <td rowspan="5"> 5M = Other Engr, Math, Sci, 5000+ "EMS" = 5M 4M = Other Engr, Math, Sci, 4000+ level, technical NT5 = non-technical other Math, Sci, Engr 5000+ level M4: Never ECEN, TLEN, nor EMEN; those 3 must be 5000+ </td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / NT5</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / NT5</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / NT5 / 4M</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / NT5 / 4M</td> </tr> </table>	ECEN 5000+	5M / NT5	5M = Other Engr, Math, Sci, 5000+ "EMS" = 5M 4M = Other Engr, Math, Sci, 4000+ level, technical NT5 = non-technical other Math, Sci, Engr 5000+ level M4: Never ECEN, TLEN, nor EMEN; those 3 must be 5000+	ECEN 5000+	5M / NT5	ECEN 5000+	5M / NT5	ECEN 5000+	5M / NT5 / 4M	ECEN 5000+	5M / NT5 / 4M
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8	ECEN 5000+													
9	ECEN 5000+													
10	ECEN 5000+													

30 COURSE CREDIT HRS:		MS-II no thesis												
1	ECEN 5000+	3 course credit hrs/each	<table border="1"> <tr> <td>ECEN 5000+</td> <td>ECEN 5000+</td> <td rowspan="5"> 5M = Other Engr, Math, Sci, 5000+ "EMS" = 5M 4M = Other Engr, Math, Sci, 4000+ level, technical NT5 = non-technical other Math, Sci, Engr 5000+ level M4: Never ECEN, TLEN, nor EMEN; those 3 must be 5000+ </td> </tr> <tr> <td>ECEN 5000+</td> <td>5M</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / NT5</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / 4M</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / 4M</td> </tr> </table>	ECEN 5000+	ECEN 5000+	5M = Other Engr, Math, Sci, 5000+ "EMS" = 5M 4M = Other Engr, Math, Sci, 4000+ level, technical NT5 = non-technical other Math, Sci, Engr 5000+ level M4: Never ECEN, TLEN, nor EMEN; those 3 must be 5000+	ECEN 5000+	5M	ECEN 5000+	5M / NT5	ECEN 5000+	5M / 4M	ECEN 5000+	5M / 4M
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10	ECEN 5000+													

30 COURSE CREDIT HRS:		MS-I w/thesis												
1	ECEN 5000+	3 course credit hrs/each	<p style="text-align: center;">Only Adam can register you for thesis hrs</p> <table border="1"> <tr> <td>ECEN 5000+</td> <td>ECEN 6950</td> <td rowspan="5"> 5M = Other Engr, Math, Sci, 5000+ "EMS" = 5M 4M = Other Engr, Math, Sci, 4000+ level, technical NT5 = non-technical other Math, Sci, Engr 5000+ level M4: Never ECEN, TLEN, nor EMEN; those 3 must be 5000+ </td> </tr> <tr> <td>ECEN 5000+</td> <td>5M</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / NT5</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / 4M</td> </tr> <tr> <td>ECEN 5000+</td> <td>5M / 4M</td> </tr> </table>	ECEN 5000+	ECEN 6950	5M = Other Engr, Math, Sci, 5000+ "EMS" = 5M 4M = Other Engr, Math, Sci, 4000+ level, technical NT5 = non-technical other Math, Sci, Engr 5000+ level M4: Never ECEN, TLEN, nor EMEN; those 3 must be 5000+	ECEN 5000+	5M	ECEN 5000+	5M / NT5	ECEN 5000+	5M / 4M	ECEN 5000+	5M / 4M
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5	ECEN 5000+													
6	ECEN 5000+													
7	ECEN 5000+													
8	ECEN 5000+													
9	ECEN 6950													
10	ECEN 6950	MS THESIS HRS												

Final Defense: Oral exam for committee of 3 faculty; ideally, 2 from ECEE Dept

30 COURSE CREDIT HRS:		Ph.D.		MUST ALSO TAKE 30 Ph.D. THESIS HRS:		
		TLEN / EMEN never count for Ph.D., no exceptions		Only Adam can register you for thesis hrs		
1	ECEN 5000+	5M = Other Engr, Math, Sci at 5000+ "EMS"		Pre-Comps: minimum 1 thesis hr, max 10	ECEN 8990	
2	ECEN 5000+			During Comps: min 1, max 10	ECEN 8990	
3	ECEN 5000+			Post-Comps: min 5, max 10	ECEN 8990	
		In all semesters prior to Comps, 10 max, cumulative thesis hrs will count toward the Ph.D. deg		During final defense: min 5, max 10	ECEN 8990	
4	ECEN 5000+			or:	3 sem x 10 thesis hrs is doable 6 x 5 is also	ECEN 8990
5	ECEN 5000+					ECEN 5000+
6	ECEN 5000+	5M	ECEN 8990			
7	ECEN 5000+	ECEN 5000+	5M	Best to take fewer, pre-Comps	ECEN 8990	
8	ECEN 5000+	ECEN 5000+	5M	and more, post-Comps to maximize	ECEN 8990	
9	ECEN 5000+	ECEN 5000+	5M	efficiency of time and effort	ECEN 8990	
10	ECEN 5000+	ECEN 5000+	5M		ECEN 8990	
Prelim: Register two months in advance; if reg'd, then obligated to take it else receive "fail"; given 2x in two yrs, to pass it. Consists of literature search or math / word problem solving, research area-specific, written/oral parts						
Comprehensive: "Practice Run" oral presentation to committee of five--three of whom must be Boulder resident faculty, others can optionally be from outside the ECEE Dept; paperwork is due two weeks prior to the exam						
Final Defense: Same as Comps, but more final; at least one member required to be from outside ECEE Dept						

All course work not listed as #1, above, must be "sufficiently technical" course work, defined as:

- a. have technical, ugrad pre-reqs
- b. not be policy-based; must be math/sci/engr heavy
- c. not overlap nor be cross-listed with TLEN nor EMEN nor any other less technical topic

If you e-mail our Grad Director, he can sometimes let you use an ASEN or CSEN technical course to fulfill an ECEN 5000+ req

4.1 ME/MENG:

- All 30 in ECEN 5000+ or:
- Minimally, 15 in ECEN 5000+ with remainder in related Engineering, Math, Science including up to 15 EMEN course credit hours upon permission from faculty advisor
- 6 of the non-ECEN (and non TLEN, non-EMEN) may be 4000+ level

4.2 MS-II (just course work; no thesis):

- All 30 in ECEN 5000+ or:
- Minimally, 18 in ECEN 5000+ with remainder in related Engineering, Math, Science
- Maximally 03 EMEN course credit hours (or other, non-technical Engr, Math, Sci) upon permission from faculty advisor
- 6 of the non-ECEN (and non TLEN, non-EMEN) may be 4000+ level

4.3 MS-I (with thesis):

- Same as MS-II, except that 4-6 of the ECEN 5000+ are ECEN 6950 (MS thesis hours)

4.4 Ph.D.

- All 5000+
- Minimally, 18 in ECEN 5000+
- Zero EMEN; Zero TLEN

5. ENROLLING IN COURSES

5.1 **Where to enroll:** <https://portal.prod.cu.edu/MyCUInfoFedAuthLogin.html>. (Please contact HELP@colorado.edu with any software questions). (Reminder: Enrollment software is closed to grad students from late May to early August; only undergrads can enroll during summer).

Please enroll in at least five credit hours (realistically, six, due to most of our courses being 3 credit hours, each).

5.2 **How to enroll:** <http://www.colorado.edu/registrar/registration-grades/register/new/enroll> for step-by-step instructions

5.3 Drop if not attending (but, if in the middle of your degree, do time-off semester, if you only need time off due to family or work responsibility). If you already enrolled—but will not be attending—then please drop the course/s you will not be attending, so that you are not charged tuition!

NOTE: You need a time/date assignment in your portal to be able to register; in your very first semester, seniors might fill courses before you do; that is perfectly natural; they receive earlier time/date assignments, due to seniority/longevity. In subsequent semesters, you will get into more of what you seek, as long as you enroll as soon as your time/date assignment starts.

5.4 **ESE (Embedded Systems Engineering)** courses are our most popular; we are aiming to reserve 50% spaces in each of these courses for ME students who specified "ESE" as their subspeciality/sub-plan, and 50% for those who are part-way through completion of an ESE Certificate. Lesser priority goes to those taking these courses, non-degreed, and lesser to current students who are not ESE nor Computer Engineering, but, rather, a different focus of study within the ECEE Dept.

5.5 Suggested course load: Usually, you should ease into and out of your degree, by taking 2-3-3-2 courses (equivalent, respectively, to 6-9-9-6 course credit hours) over four semesters, to fulfill your total of 30 course credit hours.

5.5 **Student vs. Grad Advisor enrollment:** Students generally register themselves online for general course work, while our Graduate Program Advisor registers them for thesis hours and/or independent study hours with faculty. You need faculty permission to enroll in thesis or ind study hours, and those usually come later in your studies.

5.6 **Auditing: Note:**

You can only opt for "non-credit" (N/C) or "Pass / Fail" (P/F) options *while* enrolling, even before the semester starts. You can *not* change to those options, four to 10 weeks into the semester, just because you feel your grade might not be strong enough, later in the semester, nor can you easily drop a course near the end of the semester, just to avoid a bad grade. You *earn* your grades—both good ones and bad ones. Moreover, any course taken as NC or as PF do *not* count toward the 30 hours needed to graduate—but do cost you time and tuition money to complete. Therefore, please make careful choices when registering.

5.7 **Minimal registration requirements for all grad students in order to maintain full-time student status:**

1. 5 grad-level course credit hours, or
2. 8 combined, undergrad and grad course credit hours, or,

Only for those doing a thesis:

3. 1 pre-Ph.D. Comps thesis hr, or
4. 1 "during-Ph.D. Comps semester" thesis hr or
5. 5 post-Ph.D. Comps thesis hrs

5.7.1. Visa students: You must *always* maintain full-time status. If you do not, you could jeopardize your visa status, and that is quite serious. Please speak with your faculty advisor, with me and/or with Dr. Filipovic, our Graduate Director, if you are ever in doubt.

5.7.2. U.S.-BORN students or green card holders, U.S. permanent residents and refugees. For the few of you receiving FAFSA or other U.S. Federal or State govt financial support you are required to enroll for *minimally* nine hours in order to maintain your funding. For more information, please contact:

<http://www.colorado.edu/finaid/contact.html>.

5.8. **Summer enrollment** is required only if

- 5.8.1. summer is your first semester as a Ph.D.
- 5.8.2. you are doing a Ph.D. Comprehensive exam, MS final defense or Ph.D. final defense during the summer term;
- 5.8.3. you are a visa student graduating in summer.

6. Distance Learning / BBA (“Be Boulder Anywhere” (formerly, “Engineering Anywhere” / CAETE (Center for Advanced Engineering and Technology Education) more details:

6.1. BBA Courses taken by degree-seeking students admitted via the BBA program:

Under the rules of the Electrical, Computer, & Energy Engineering department, it is possible for a duly admitted graduate student **in a remote geographical area in the U.S.** to complete some or all of the requirements for the Master of Science degree through participation in the BBA distance learning program. The mechanics of this program are handled by the BBA office. More details are available at <http://beboulderanywhere.colorado.edu/> .

6.2. Visa Students: You are here with "on-campus" status visas and, ideally, should not take Be Boulder Anywhere (BBA)/ CAETE / Engineering Anywhere), distance learning courses. If you do, however, then you can not take more than four BBA/CAETE courses out of the roughly 10, total, needed to earn your degree. You must always enroll in minimally two course credit hours of on-campus course work. You can never solely enroll via BBA/CAETE. You can only qualify for in-state tuition status if: You are on a work visa in industry, and studying part-time; you become a green-card holder or U.S. permanent resident, or U.S. citizen. Otherwise, you will pay out-of-state tuition--especially if you are an F- or J-visa holder. F-2 and J-2 visa holders (usually spouses or family members of students) can only work as TAs or RAs after being admitted to a degree program and only after converting to F-1 visa status.

6.3. BBA Courses Taken by On-Campus Students

(Note: The BBA office is located on first floor of the Office Tower, quite near the elevators):.

6.3.1. Requirements for **all** on-campus students:

- 1) Switching exclusively to BBA courses is **impossible** for F- and J-visa students and rather problematic for U.S. citizens and permanent residents. For the latter, you **must** be decisive about your first semester and **not** switch between programs until completion of your first semester. Such a process is quite time-consuming and you may not see the changes you want, in time for the semester start—so choose wisely.
- 2) In later semesters, you can NOT take BBA courses simply to save tuition money.
- 3) Each semester that you either switch ALL your course work from on-campus to exclusively via BBA (or vice versa), please check with the on-campus Registrar's office and with the BBA office—although the campus software purportedly will not drop you from enrollment, and refund your \$200 deposit (necessitating your re-applying to our university to be re-admitted!)—this nonetheless still happened, as recently as spring 2015.

6.3.2. Additional requirements for **F- and J-visa students:**

- 1) If you take a BBA course, you **MUST** also be enrolled in a minimum of 2.0 on-campus course credits to maintain your visa status per U.S. Immigration and Naturalization Services (INS) regulations. A course offered via Continuing Education (ACCESS program), such as Embedded Systems, qualifies as an “on-campus” course, as long as you have already been admitted to the MENG, M.S. or Ph.D. degree program. In fact, although at least one Embedded Systems course is administered via BBA, it is NOT actually a ‘distance-learning’ course, and requires physical attendance in the lab and classroom.

7. Continuing Education / ACCESS

Occasionally, some popular courses are available only via the Continuing Education / ACCESS program (303-492-8252 or <http://ce.colorado.edu/programs/access/> , located at 15th and University. Tuition is paid separately to Continuing Education, not to the Bursar's Office. Embedded Systems is sometimes offered via Continuing Education in this manner. Grades from courses taken via Continuing Education, **after** a student has been admitted into the MENG, M.S. or Ph.D. degreed programs, will be calculated into the cumulative GPA. If the course is taken **before** the student is admitted to the degreed program, then only the credit—not the grade—can be transferred in to apply toward the degree.

7.1. Continuing Education courses are considered ‘on-campus’ courses for purposes of visa status. BBA courses are not.

7.2. BBA and Continuing Education courses are considered non-degreed courses when taken *prior to* admission to a degree-seeking program. *After* admission to your BS/MS, MS, MENG or Ph.D. degree-seeking program, BBA and Cont. Ed. Courses are considered “degreed” and need not be transferred in.

7.3. Visa students must ALWAYS be registered in a minimum of 2 on-campus credit hours (including Continuing Education courses). In their final semester, if they are either in an internship, and/or working out of state, they can request a form from the ISSS office, to be signed by their faculty advisor, giving them permission to take only a single course, but they must never be registered solely through BBA/CAETE.

7.4. Tuition for BBA courses is *never* covered by tuition remission for TA or RA work. There are *never* any exceptions for this. On-campus course work is covered, however: Up to five course credit hours for a 25% TA or RA appointment and up to 10 course credit hours for a 50% TA or RA appointment.

8. M.S. Degree Flowchart

The Master of Science flowchart, Figure 1, graphically describes the sequence of events leading up to the conferring of the M.S. degree. Students are responsible for making certain that each step in their program is completed within the required time:

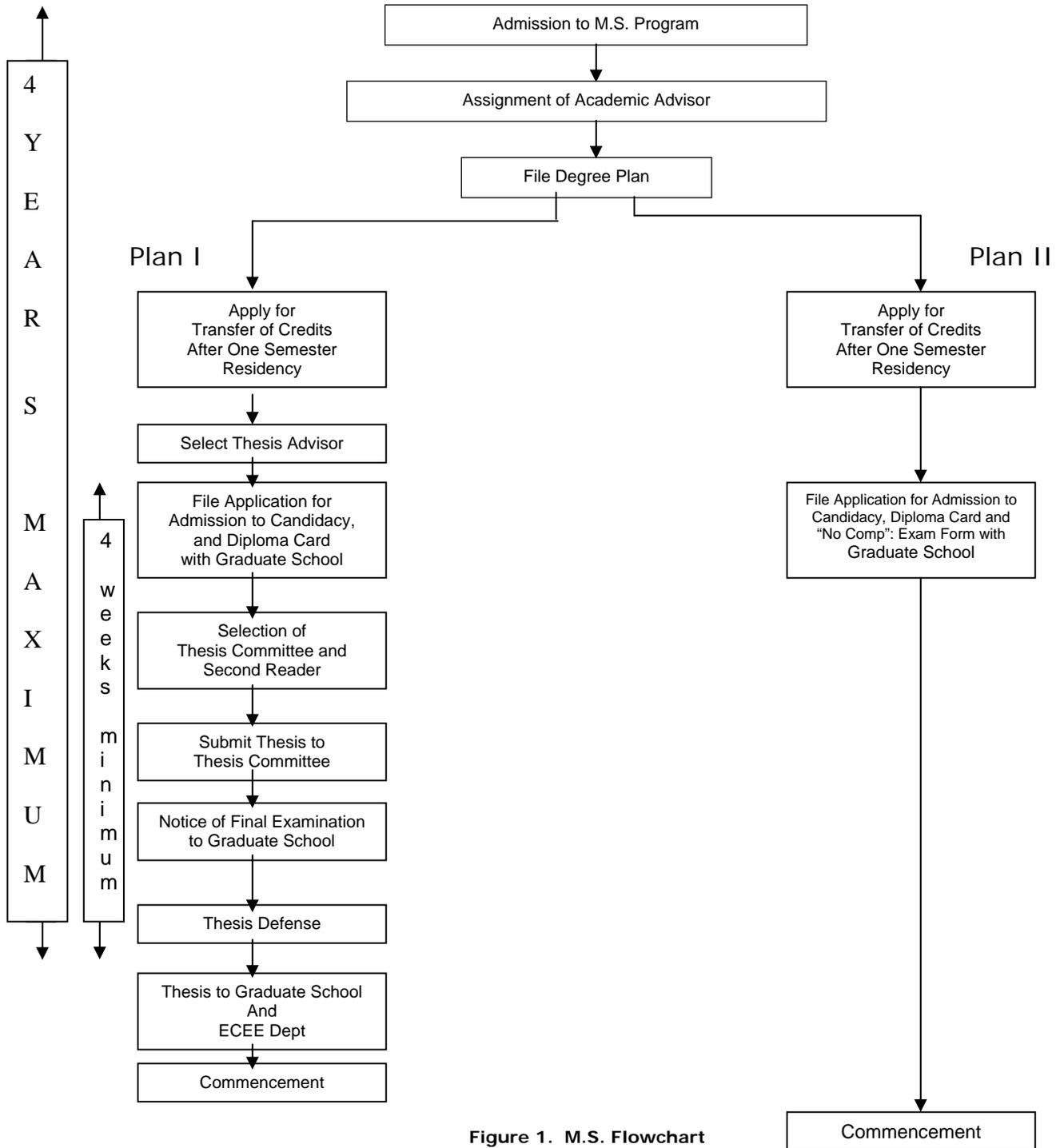


Figure 1. M.S. Flowchart

9. Moving from MENG to M.S.

Students who intend to switch from the M.E. (MENG) program to the M.S. program and who opted for the M.E. program because they could not take the GRE exam in time, must take the GRE as early as possible. For their MENG>M.S. request to be accepted, their scores, letters of recommendation, transcripts, personal statement, etc. must be strong enough to warrant admission directly into the M.S. program.

10. DOCTOR OF PHILOSOPHY DEGREE

The Doctor of Philosophy degree is the highest academic degree conferred by the University. The student who receives it must have demonstrated proficiency in some broad subject of learning and the ability to critically evaluate work in this field. Furthermore, the student must have shown ability to work independently in this chosen field and must have made an original contribution to the advancement of knowledge.

10.1. Residence Requirements

The minimum residence requirement shall be six semesters of scholarly work beyond the attainment of an acceptable bachelor's degree. Not fewer than four semesters of residence credit, at least two of which must be consecutive in one academic year, must be earned at the University of Colorado. The last two semesters of the residence requirement must be earned here, except in unusual circumstances subject to the approval of the Dean of the Graduate School. Residence credit may be earned for course work completed with distinction, for participation in seminars, or for scholarly research performed here or elsewhere under the auspices of the University of Colorado. Not more than two semesters of residence credit may be allowed for an acceptable Masters degree. For further residence information, see the *University of Colorado Catalog*. <http://www.colorado.edu/catalog/>.

10.2. Thesis hours

10 max, cumulative hrs can be used **pre-Comps exam**; 10 max and 1 minimum, during the Comps exam will count toward your degree.

Post-Comps: Must remain enrolled in 5 thesis hrs until graduation, else will need to re-do Comps exam.

Post final defense: U.S. students need not enroll, if simply editing, re-working the write-up of their thesis; visa students: Same, but only if you are on OPT (Optional Practical Training) status, that gives you 90 days to find employment in the U.S. If you are not on OPT status, then you must enroll in at least a single Ph.D. thesis hour—yes, even post-final defense.

10.3. Research Advisor

A student who is ready to begin research work for the Ph.D. thesis will request the faculty member with whom he or she wishes to work to act as chair of the student's Thesis Committee. (Students should place their major effort on their research problem after they have passed the comprehensive examination for the Ph.D. degree but may begin their research before then if the Chair approves.)

If the research advisor is different from the student's initial advisor, the appropriate changes in the Thesis Committee must be initiated by the student.

Important: The ability to perform significant and independent research is a prime requisite for the Ph.D. degree. This research must be under the supervision of a graduate faculty member, and it is the student's responsibility to choose a topic and find a faculty member who will act as research advisor. This is an important step and should be done early in the program to ensure the probability of completion. It is advised that the student select a thesis topic and find a research advisor before embarking upon a Ph.D. program.

10.4. Foreign Language Requirement

Ph.D. students whose native language is English must demonstrate first-year proficiency in one foreign language suitable to their Thesis Committee by completion of one of the following:

- presenting a transcript with a grade of "C" or better in at least three semester hours of a second semester, college-level language course;
- presenting a transcript showing a grade of "C" or better in two years of high school language;
- registering for any second semester, college-level course in the foreign language and passing it with a grade of "C" or better; or
- attaining advanced placement credit for one year of college-level foreign language in their undergraduate work.

The language requirement must be met before the Ph.D. comprehensive examination may be scheduled.

A student whose native language is not English will, by passing courses and by completing graduate work at the University, demonstrate sufficient ability in English to meet the spirit of the language requirement.

Any exception to these rules must be made in a formal petition to the Director of Graduate Studies with written approval of the student's advisor.

10.5. Defenses between semesters (valid for both MS and Ph.D. defenses):

Summer

For a defense to count toward summer, the student performing the defense must be enrolled for the summer term. S/he may perform the defense any time *following* the conclusion of the university spring graduation ceremony, but *prior to* the official start of fall semester courses—yes, even during the couple of weeks between semesters.

Fall

The same holds true for fall semester: The student must be enrolled for the fall semester, and the defense may be performed any time *following* the official university summer graduation date (no ceremonies held in summer, but there is an official date, approx. end of the first week of August), but must *precede* the official start of the spring semester courses.

Spring

Again, the same rules for a spring defense hold true: The student must be enrolled for spring semester and the defense may be performed any time *following* the official university fall graduation ceremony, but must *precede* the official start of summer "A"-session courses.

Note: Most students perform these defenses *during* the respective semester—not between semesters—and must do so, maximally, several weeks prior to the graduation ceremony, in order to graduate in the same semester as the defense.

A student who fails the final examination may attempt it again upon recommendation of the Thesis Committee.

11. Doctor of Philosophy Flowchart

The Doctor of Philosophy Flowchart, Figure 2, graphically illustrates the sequence of events leading up to this degree. The students should familiarize themselves with this sequence, the time schedules, and the rules of the Graduate School as outlined in the *University of Colorado Catalog*, since students are responsible for their own programs.

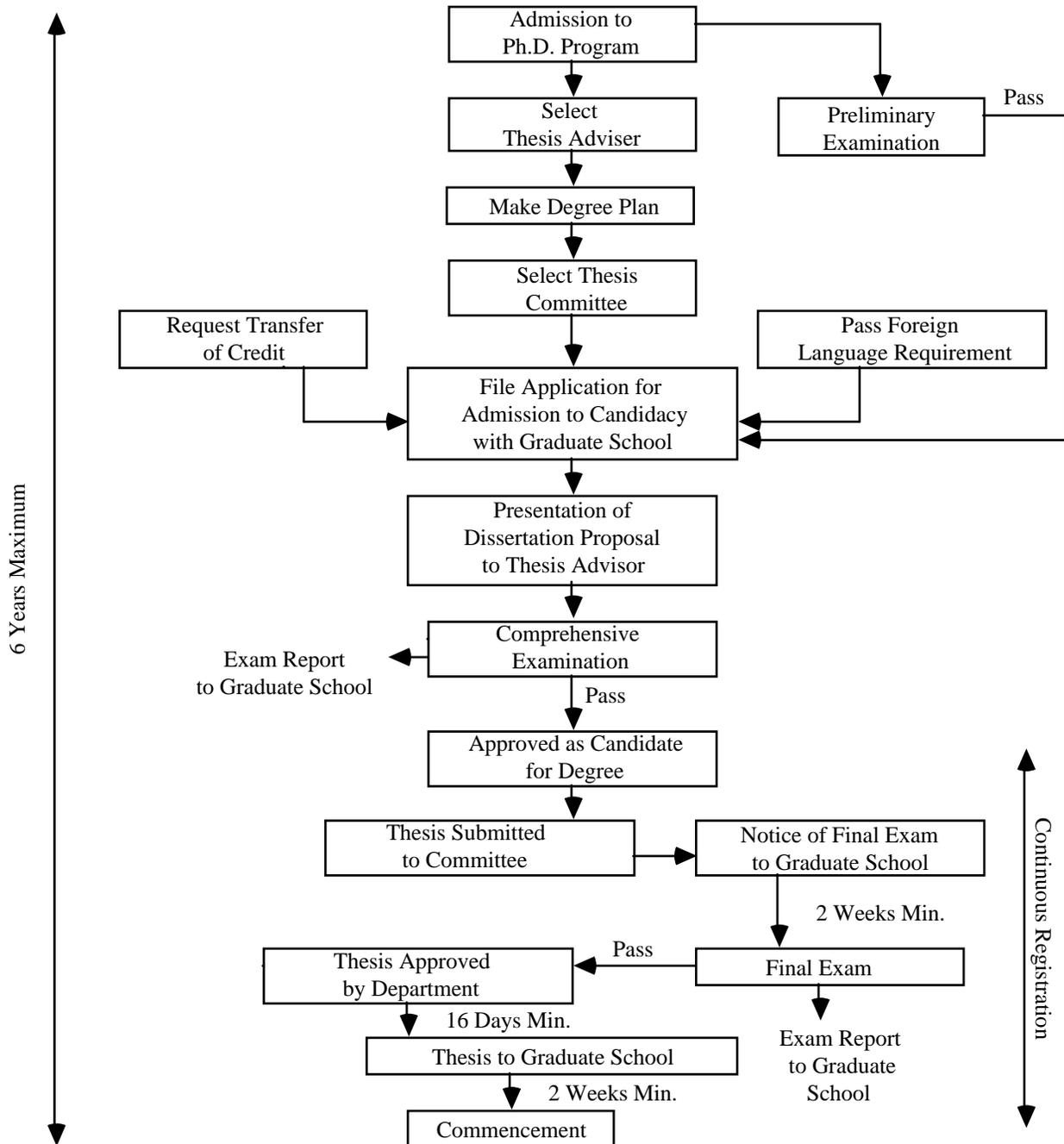


Figure 2. Ph.D. Flowchart

12. ACADEMIC PROBATION:

Each semester, roughly 6-12 ECEE graduate students drop below a 3.0 cumulative gpa. If you are one of these students, then you will need to write a letter (on a blank sheet of paper—no special form for this), to Attn: Dean of the Graduate School.

In the letter, you must specify which specific course titles and associated course numbers you will take during the next two semesters, plus the minimal, respective grades you intend to earn, in each one.

You then need to show, mathematically, how these grades will bring your cumulative gpa above a 3.0.

Please note that in the worst case, you can be removed from our program, but that faculty, in general, wish to see you improve your grades and graduate (you can not graduate with a gpa less than 3.0). That said, it is important to write this petition letter, obtain signatures on it, and submit it in a timely way, as soon as you are able, after learning of your sub-3.0 cumulative gpa.

Three people need to sign and date your letter of petition:

- 1) You
- 2) your faculty academic advisor
- 3) the ECEE departmental Graduate Director

Give the Grad Program Advisor a photocopy of the letter, and bring the original to Carrie Simon in the Graduate School (Regent Hall, Rm# 1B53).

13. COURSE TRANSFERS

As for transferring course work toward your graduate degree in the ECEE Dept:

1. You apply to do this only after completing six credits as an MS student, or after passing your preliminary exam as a PhD student. You must also be a regular not provisional nor conditional status student at the time you apply for credit transfer.
2. You must provide original transcript/s of the university at which the course credits were originally earned
3. You must prove that the course work was completed within the past four years (only for Masters transferring, not PhD)--else you must validate the material by taking an oral and/or written exam to show you still retain the material covered by the course/s.
4. You must also show that the courses were not applied toward completion of any other degree (if trying to transfer credit toward a Masters; if trying to transfer toward a PhD, then the credits might already have applied toward a previous Masters degree—but not previously toward a dual, BS/MS degree)
5. You must show that they are exclusively graduate-level courses and show the course numbering system (for example, exclusively graduate level courses here at CU are 5xxx)
6. You can transfer up to 9 semester credit hours for an MS degree in our dept, or up to 21 for a PhD degree. If you earned your Masters in our dept at CU Boulder, then you can potentially transfer all 30 credit hours of Masters work toward your PhD in our same dept., if they are all at the 5000+ level.
7. Only credit hours--not grades--will transfer in.
8. You must have earned at least a "B" in each course you wish to transfer.

14. Time Limit

4 Years for full-time Masters students.

6 Years for Ph.D. students and for ME students who are working full-time, but studying part-time.

A student is expected to complete the work with reasonable continuity.

15. Withdrawing from School

M.S. students may participate in the Time Off Program (details available from the Office of Registrations or via <http://registrar.colorado.edu/students/timeoffprogram.html>). Any semester/s on Time Off are included in the time limit to complete the degree. Students who are not on Time Off and do not register during a given fall or spring semester will be automatically withdrawn from the University and must fill out an application for re-admission in order to return. **Note that this occurs even if you transfer from on-campus to BBA/ CAETE or visa versa, for one semester—if you don't notify the Grad Program Advisor of the change and fill out a simple ("BBA/ CAETE transfer") form, then the University registration software will automatically drop you, and you must re-apply.** Students who withdraw from school permanently must do so formally with the Admissions office and by e-mailing withdraw@colorado.edu and also by e-mailing sadoff@colorado.edu. For questions or more information about the withdrawal process, visit or call the Office of the Registrar, Regent 105, 303-492-8673 or e-mail withdraw@colorado.edu. Please see <http://registrar.colorado.edu/students/withdraw.html> for more details.

16. RULES COMMON ACROSS MULTIPLE DEGREES

16.1. Only a maximum of six ECEN 5000+ level course credit hours can count toward both BS and MS credit—and ONLY for those students who are specifically BS/MS degree-seeking status.

16.2. No class can *ever* count as triple credit (in other words, the six course credit hours of permitted, ECEN 5000+, sufficiently technical courses that only BS/MS students are permitted to count toward both the BS portion and toward the MS portion of their concurrent degree count *only* toward the BS/MS degree. They may *never* be applied toward a Ph.D. degree.

16.3 To transfer from one degree program to another requires an application. See the Grad Advisor for details.

16.4. Denver and Colorado Springs Campuses

The University of Colorado maintains campuses in Denver and Colorado Springs as well as in Boulder. It is possible for a student to enroll and complete the course work necessary for an advanced degree in electrical engineering at either of these campuses, although most of the classes are scheduled in the evenings and are arranged for the convenience of the working student. Any courses taken by Boulder campus students at another CU campus are subject to the 9 hour (for M.S.) or 21 hour (for Ph.D.) maximum transfer rule (see Sections 4.1.6 and 6.1.7).

The campus at Denver is a geographic extension of the Electrical, Computer, & Energy Engineering Department in Boulder. A separate M.S. program exists at the Denver Campus and admissions for this program are handled by the Denver Campus. Full-time faculty are available for counseling and advising and have responsibility for the academic programs.

For further detailed information, write:

Electrical Engineering Department
University of Colorado at Denver
Campus Box 104
P.O. Box 173364
Denver, Colorado 80217-3364

The campus at Colorado Springs has established a separate M.S. and Ph.D. program. Please write for information to:

Electrical Engineering Department
University of Colorado at Colorado Springs
P.O. Box 7150
Colorado Springs, Colorado 80933-7150

16.5. Petitions

Deviations from the general rules and procedures listed in this booklet or in the *University of Colorado Catalog* may be made only through the use of a properly executed petition. Petition forms are available in the Electrical, Computer, & Energy Engineering Graduate Office. They must be filled out by the student, endorsed by his or her academic advisor, and submitted to the department Graduate Office for final approval by the Director of Graduate Studies.

16.6. Special Students

The special student category is open to all persons who wish to take courses at the University of Colorado for information only. Consent of the instructor is required for such registration, and credit received may *not* be applied toward any graduate degree except through subsequent "Transfer of Credit". The special student is a student-at-large and is not attached to a particular department nor is he or she enrolled in the Graduate School. The student need not submit a formal application, but rather a letter of intent should be sent to the Office of Admissions and Records.

Further information about this category may be obtained by writing or calling the Department of Continuing Education, Campus Box 178, (303) 492-5148.

16.7. Further Information

See the *University of Colorado Catalog* (<http://www.colorado.edu/catalog/2015-16/>) or contact the Electrical, Computer, & Energy Engineering Graduate Office, ECEE 1B63, (303) 735-0490.

17. ESSENTIAL: All the rules preceding this are equally important, and you should refer to them for specifics. Nonetheless, in our experience, some rules create more problems than others, for students. Below is a list of specifics that requires your special attention.

In the past, some individuals' graduations have been delayed—or, more seriously, students were dropped from our program—due to failure to comply with one or more of the following.

17.1. Seek help as early as possible for any concerns or questions that affect your academic life. Please speak with the course instructor and with your faculty academic advisor for concerns about a course. For academic or any other problems, please contact the ECEE Graduate Program Advisor, the ECEE Graduate Program Director, the Ombuds' office <http://www.colorado.edu/ombuds/> or Counseling and Psychological Services <http://www.colorado.edu/counseling/home> and <http://www.colorado.edu/counseling/services> as appropriate. Early advice is much more effective.

17.2 deadline to submit *all* the required paperwork, by the deadline (usually e-mailed several times, beginning 5 or 6 weeks prior to the deadline), then you do not graduate in that semester.

17.3. You can not drop a class in which you got a bad grade. You can not drop a class, after the drop deadline, just because you fear you will get a bad grade. Plan accordingly.

17.4. Only courses with a minimum of "B" can be transferred into a grad-level degree seeking program. Courses with lower grades can *never* be transferred.

17.5. Failure to comply with the provisions of academic probation is the leading cause of being dropped from our program. **Please talk with your advisor as soon as you become aware that your cumulative GPA may drop /has dropped below 3.0. Meet the deadlines and the provisions of probation status.**

17.6. You can only graduate after completing 30 course credit hours. If you are transferring course credit hours, these sometimes translate as fractional hours (from quarter systems or other terms at overseas universities). There is no "rounding up" to 30—no matter how small the difference.

MORE RULES COMMON ACROSS MULTIPLE DEGREES

17.7. Only a maximum of six ECEN 5000+ level course credit hours can count toward both BS and MS credit—and ONLY for those students who are specifically BS/MS degree-seeking status.

17.8. No class can *ever* count as triple credit (in other words, the six course credit hours of permitted, ECEN 5000+, sufficiently technical courses that only BS/MS students are permitted to count toward both the BS portion and toward the MS portion of their concurrent degree count *only* toward the BS/MS degree. They may *never* be applied toward a Ph.D. degree.

17.9. To transfer from one degree program to another requires an application. See the Grad Advisor for details. (Masters students do *not* become Ph.D. students simply by taking the Ph.D. preliminary exam, nor by virtue of their faculty advisors stating that they are a Ph.D. student. Rather, changing from Masters to Ph.D. status involves a lot of serious paperwork and deadlines. There is a process required in order to apply. Please see the Graduate Program Advisor for details.) Notice that you cannot register for Ph.D. thesis hours until you are formally admitted to the Ph.D. program.

17.10. Occasionally, a one-credit seminar course is offered. A maximum of 3 such hours can be applied toward your graduate degree in the ECEE Dept.

17.11. You must be a full-time enrolled, degree-seeking student to work as a salaried TA or RA, and must work at least 12 weeks of a semester in order to receive the tuition remission and insurance coverage.

17.12. Please register as early as possible for the courses you plan to take. Timely registration helps prevent course cancellation due to under-enrollment.