

PRINCETON

Department of Electrical Engineering

<http://ee.princeton.edu/>

# Graduate Student Handbook



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**Table of Contents**

*EE DEPARTMENT CONTACT INFORMATION* .....4

*GRADUATE SCHOOL CONTACT INFORMATION* .....4

**PART 1: NEW GRADUATE STUDENTS** .....5

*WELCOME*.....5

*GETTING STARTED*.....5

    Academic Advisor .....5

    Course Add/Drop.....5

    Building Access .....6

    Desk Space.....6

    Keys.....6

    Mailbox.....6

    Coffee Lounge.....6

*LOOKING AHEAD* .....7

    Selecting a Research Advisor .....7

    Advisor Matching Process .....7

    Changing Your Research Advisor.....8

*OTHER IMPORTANT INFORMATION*.....9

    Safety .....9

    Graduate Student Policies .....9

    Academic and Scholarly Integrity .....9

    Vacation Policy .....9

    Library Facilities .....10

    Electrical Engineering Emergency Action Plan. ....10

    Electrical Engineering General Policies and Procedures .....10

    Tax Filing Responsibilities .....10

PART 2: THE DOCTORAL PROGRAM .....	10
<i>COURSE WORK</i> .....	10
Course Requirements .....	10
Incompletes .....	11
Minor Requirement .....	11
Responsible Conduct of Research .....	11
<i>REENROLLMENT</i> .....	11
<i>FINANCIAL SUPPORT</i> .....	12
Academic Year Support .....	12
Summer Support.....	13
External Fellowships .....	13
<i>INTERNSHIPS</i> .....	13
Summer .....	13
Regular Academic Year .....	13
<i>THE GENERAL EXAM</i> .....	14
General Exam Committee.....	14
Research Seminar .....	14
Oral Exam.....	14
Master of Arts (M.A.).....	15
<i>AWARDS</i> .....	15
Department Awards .....	15
SEAS Awards .....	15
University Awards.....	16
<i>ASSISTANT IN RESEARCH (AR) and ASSISTANT IN INSTRUCTION (AI)</i> .....	16
Assistantship in Research (AR) .....	16
Assistantships in Instruction (AI) .....	16
Required AI Training .....	17

*DEGREE REQUIREMENTS* ..... 17

    PhD Degree Requirements ..... 17

    M.S.E. Degree Requirements ..... 17

*STUDENT STATUS* ..... 18

    Regular Enrolled Status ..... 18

    In Absentia Enrolled Status ..... 18

    Dissertation Complete Enrollment (DCE) ..... 19

    Leave of Absence Unenrolled Status ..... 19

    Enrollment Terminated, Degree Candidacy Continues (ET/DCC) ..... 19

*GRADUATE PROGRAM COMMITTEES* ..... 19

    Faculty Graduate Committee ..... 19

    Graduate Student Committee ..... 20

PART 3: CLOSURE ..... 20

*APPLYING FOR THE Ph.D. DEGREE* ..... 20

    Preparing for the Dissertation and Final Public Oral (FPO) ..... 20

*APPLYING FOR THE M.S.E. DEGREE* ..... 24

## *EE DEPARTMENT CONTACT INFORMATION*

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## *GRADUATE SCHOOL CONTACT INFORMATION*

### **Assistant Dean for Academic Affairs**

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## PART 1: NEW GRADUATE STUDENTS

### *WELCOME*

We are delighted that you have chosen Princeton's Department of Electrical Engineering for your graduate studies! Princeton has much to offer, both at the Department and University levels. We encourage you to take advantage of the many opportunities at Princeton to get to know the faculty and your fellow students.

During your time at Princeton you will also interact with a range of university staff in the Department, the School of Engineering and Applied Science, and the Graduate School. Many of these people have years of experience at Princeton and are happy to assist graduate students in their research, in answering questions, and in guiding them through the maze of university administration.

If you have questions about university procedures and don't know who to contact, start with the EE Graduate Program Coordinator:

Colleen Conrad, B209 E-Quad, 8-6728, [cconrad@princeton.edu](mailto:cconrad@princeton.edu).

If you have any concerns that apply specifically to you (personal or professional), feel free to contact the Director of Graduate Studies (DGS), Professor Naveen Verma, B226 E-Quad, 8-1424, [nverma@princeton.edu](mailto:nverma@princeton.edu).

### *GETTING STARTED*

**Fall Semester:** Classes begin on September 13. Beginning September 1, students can log onto [TigerHub](#) to sign-in for the academic year, enroll in courses, view course and exam schedules, view their academic record, follow their degree progress, and evaluate courses.

**Academic Advisor:** Each incoming student is assigned an academic advisor to help with course selection and other academic matters. Please meet with your academic advisor as soon as possible.

**Course Add/Drop:** If you want to add or drop a course after the Graduate School's posted deadline (see [academic calendar](#)) the change is done via a Course Enrollment Worksheet. You can

find the form on TigerHub. The form should be signed by the DGS, a copy provided to the Graduate Program Coordinator and the original delivered to the Registrar, 101 West College. If you stop attending a class but do not officially drop the class, you will receive a grade assigned by the course instructor.

**Building Access:** All exterior doors to the E-Quad are unlocked Monday thru Friday from 7:00 am to 7:00 pm, excluding University holidays. Most locked doors can be opened with a building access card. Handicapped access to the E-Quad is available at the main E-Quad entrance on Olden Street and also at the entrance to the G-Wing near the tall liquid nitrogen tanks.

**Desk Space:** You will be assigned a temporary desk upon arrival. If a desk change is necessary after Advisor Matching, a request should be made to the Graduate Program Coordinator, in writing, by your research advisor. Please note that all of the E-Quad is a public space. Please lock your personal belongings when you are not at your desk. University insurance does not cover the loss of personal items such as cell phones and laptops.

**Keys:** Office/Desk keys can be obtained from the Graduate Program office. Laboratory keys are available from the Main Department office.

**Mailbox:** Each enrolled graduate student has a mailbox on the third floor in the hallway above the Café. Please do not have personal mail sent to your department mailbox.

Mail that arrives in the department is sorted and deposited in the appropriate mailboxes daily. The Graduate Program office will contact you to pick up any packages that arrive for you that will not fit in your mailbox. If you order from outside vendors that ship via shipping method other than the postal service, those packages will be delivered to the purchasing office, B321. The Purchasing Office will contact you when the package arrives. Outgoing mail (both US and campus mail) may be deposited in the mailboxes located near the Café. Interdepartmental envelopes for campus mail are available in B209.

**Coffee Lounge:** The department lounge is in B211 of the Engineering Quadrangle. It is equipped with a microwave and a coffee/tea/cocoa machine (25¢ per cup, bring your own mug). You are welcome to eat there. It is your responsibility to ensure the area, including the microwave, refrigerator and sink, remains neat and clean.

## *LOOKING AHEAD*

**Selecting a Research Advisor:** Choosing a research advisor is one of the most important steps in the Ph.D. program; it should be done with care. A good way to select a research advisor is to get to know most (if not all) of the professors in your area of interest, and to schedule meetings with these professors so they can learn about your interests. Students should contact the professors to arrange one-on-one meetings during the fall semester of the first year. In addition to meetings with professors, students should talk with current graduate students and ask professors for permission to visit and sit in on some research-group meetings.

It is not uncommon for students to focus initially on finding a professor whose research interests most closely align with the student's. But, there are also other factors to consider, in addition to the area of research:

- Is there a good match in terms of research style? (For example, an experimental vs. theoretical focus; collaborative, group-oriented research vs. more independent research)
- What is the amount of faculty time available for students, and what is the style of interactions? Some professors schedule one-hour weekly meetings with students, other professors might stop by the lab to chat periodically, and others expect the students to arrange appointments when they need to talk.
- What about personality, keeping in mind that dissertation research usually lasts for three to five years?
- What do the graduate students from the research group do after they graduate? Do most go into academia or industry? How does this match your own career aspirations?
- How long does it typically take students to graduate from the group?
- What other things do current students in the group say about the research environment?

As you can see, selecting an advisor goes beyond research alone. You should ask enough questions to develop a sense of which faculty member's research interests and work style are most compatible with your own.

Certain faculty may have specific expectations for students in their research group. Be sure to discuss course/research plans with your academic advisor early in the Fall semester.

**Advisor Matching Process:** On the last day of fall-semester reading period, each first year Ph.D. student is asked to submit a ranked order list of exactly three advisor preferences. Each



preference can be either an individual faculty advisor or a pair of co-advisors. The list is submitted to the DGS and Graduate Program Coordinator. On the Friday of intercession, each student will be notified if it has been possible to match a student with one of the three submitted preferences. Non-matched students may need to reconsider their list of preferences and can be subsequently matched at any point in the spring semester.

Each faculty member is free to make a decision on a student advisee during the end of fall semester matching period or wait until any later time in spring semester. If a faculty member decides to wait, he or she will discuss this with those students who listed their names on the preference lists before the Friday of intercession. Each student can then make his or her own choice: participate in this round of matching or wait until later.

You must have a research advisor by June 1 of your first year to be reenrolled for the 2<sup>nd</sup> year. If you do not, you should schedule a meeting with the DGS to discuss your plans.

***Changing Your Research Advisor:*** The Department recognizes research interests may change after a student begins graduate study at Princeton. If you feel that your talents and interests would be better served working with a different research advisor, a change is most often possible. While it can feel awkward to switch advisors, the benefits often outweigh the difficulties.

The specifics of how to go about changing research advisors depends on the individual situation. You are encouraged to discuss the situation (confidentially, if preferred) with the DGS. But in general, a typical approach for a student to follow is to:

- Discuss any issues with the current advisor. Sometimes a simple adjustment of research topic may be enough to improve the situation.
- Speak to faculty members with whom the student would like to work.
- Finalize plans with the professor who will be the new advisor.
- Let the previous advisor know about the new choice and work out a transition plan.
- When the switch is finalized, notify the Graduate Program Coordinator to update the records.

## *OTHER IMPORTANT INFORMATION*

**Safety:** **Laboratory Safety is of the utmost importance!** *All incoming first year graduate students are required to take Laboratory Safety Seminars to help ensure their safety and the safety of their colleagues.* Every student who works in a laboratory *must* complete the Laboratory Safety Course. In addition, the [SEAS Safety Guidebook](#) outlines procedures to ensure a safe and healthy working environment for all faculty, staff, students and visitors. Please review the [Safety Highlights](#) and the [Safety Guidebook](#) to ensure the safety of you and your colleagues. If you are sure that you will not be working in a lab or if you have questions about Lab Safety Training, please see the Graduate Program Coordinator, Colleen Conrad.

**Graduate Student Policies:** Please review the Graduate School policies at <http://gradschool.princeton.edu/policies>. There are two policies that you should learn about as soon as possible: (1) Academic Integrity; and (2) The Vacations.

**Academic and Scholarly Integrity:** The ability of the University to achieve its goals depends upon the quality and integrity of the academic and scholarly work that its faculty, staff, and students perform. Intellectual integrity, with its accompanying rights and responsibilities, lies at the heart of the University's mission. Observing basic honesty in one's work, words, ideas, and actions is a principle to which all members of the community are required to subscribe. The best guide to these issues is the University's publication [Rights, Rules, Responsibilities](#) (RRR). The RRR is revised and reprinted each year; however, the standards for issues such as plagiarism and other academic violations do not change. *It is crucial that you read and understand the RRR, most importantly the section on Academic Regulations.* *You must understand what constitutes an academic violation at Princeton. If you have questions, please contact the Director of Graduate Studies, [nverma@princeton.edu](mailto:nverma@princeton.edu)*

**Vacation Policy:** Graduate study is a full-time commitment. As outlined in the [Graduate Student Policies](#), during the academic year, September 1 to August 31, graduate students may take up to, but no more than, 4 weeks of vacation (this includes standard university vacation days). The department encourages students to take vacation, as a break from work often increases your subsequent productivity. However, please remember that any vacation time must be discussed and approved by your advisor (academic or research) before taking time off.

If you are assigned as an AI, please discuss your vacation plans with the Professor teaching the course. If you anticipate being an AI during the Fall semester and are planning to travel during the summer, please ensure that you will return before the start of the Fall semester. NOTE: International Students, if you are returning home to renew your visa, please check with the Davis International Center regarding the timing of your travel and possible delays.

**Library Facilities:** The University's library is electronically accessible at <http://libweb.princeton.edu>. From this site, you can access the University's on-line catalog and many databases, including the electronic version of many key journals in electrical engineering. The University also has an electronic document delivery service, whereby you can request articles from journals not held by the Library, or in older volumes in branch libraries. Believe it or not, there are also "non-virtual" branches of the library throughout campus!

**Electrical Engineering Emergency Action Plan.** Please review the [Department's Emergency Action Plan](#).

**Electrical Engineering General Policies and Procedures:** Please review the [Department General Policies and Procedures](#)

**Tax Filing Responsibilities:** For international students, please see the Davis International Center website <http://www.princeton.edu/intlctr/davis-ic-home/taxes-social-security/>

## PART 2: THE DOCTORAL PROGRAM

### COURSE WORK

**Course Requirements:** A minimum of eight graded technical courses at the 400 and/or 500 level must be completed in the first two years of Ph.D. study, with a required minimum GPA of 3.3 for eight courses. During your first year, a minimum of six graded technical courses at the 400 and/or 500 level must be completed. The grades from these courses are an important component of the Department's reenrollment decisions (see [Reenrollment Section](#)). Some technical courses at the 300 level from ELE and other departments may count for this requirement. Permission of the Faculty Graduate Committee is required for any 300 level course to count towards the 8 minimum courses. If you wish to enroll in a 300 level course and intend to use that course as one of the 8

required courses, please contact the Graduate Program Coordinator to obtain permission before registering for the course.

**Incompletes:** Graduate students who have not completed the requirements of a course by the University grading deadline will receive an incomplete (INC). INCs are typically given for extremely extenuating circumstances, such as personal or family problems. INCs must be replaced by a regular grade (including F) within one year from the end of the semester in which the INC was assigned. For each INC, the student and the professor should agree on a concrete plan for completing the unfinished work within the necessary time period.

**Minor Requirement:** To satisfy the minor requirement you should consult with your advisor to select two courses from the courses completed that: (1) are outside your major research area; and (2) you have earned a minimum GPA of 3.3 in for the two courses. Some specific courses may be recommended or required by an advisor. Students should check with their advisor for specific details.

**Responsible Conduct of Research:** To ensure graduate students conducting research are educated in research ethics, the University and the Graduate School expect all graduate students in the divisions of social science, natural science, and engineering receive training in responsible conduct in research. Electrical Engineering students are expected to complete the Responsible Conduct of Research training during the second year. If a student has a conflict, he/she should contact the Graduate Program Coordinator to discuss an alternative plan.

## **REENROLLMENT**

All graduate students must formally apply for reenrollment, annually. In the spring the Graduate Program Coordinator will notify all students when reenrollment is open and provide a deadline for completion of the reenrollment form, including a place for student comments. Plan to meet with your advisor before completing the reenrollment comments. After submitting the reenrollment form, your advisor will review, comment, and submit the reenrollment request to the DGS. The DGS will then review, comment, and submit the request to the Graduate School for processing. The Dean of the Graduate School makes all final reenrollment decisions for all students, based upon the departmental recommendations. The Graduate School will then notify all students of their reenrollment status.

First-year students should keep in mind that in order to be reenrolled into the second year of study with continuing Ph.D. candidacy, the following departmental requirements must be satisfied:

- Six graded technical courses at the 400 and/or 500 level, with a minimum GPA of 3.0. If a student has not completed six graded, graduate level courses by the end of the first year, readmission may be deferred, granted for fall term only, or declined, depending on the student's performance and any extenuating circumstances.
- A commitment from a faculty member to advise and support the student throughout their graduate studies.
- Completion of the University English language requirement, necessary for appointment as an Assistant-in-Instruction.

In order to be reenrolled into the third year of study with continuing Ph.D. candidacy, a student must satisfy the following departmental requirements:

- Eight graded technical courses at the 400 and/or 500 level, with a minimum GPA of 3.3.
- Successful completion of the General Exam (see General Exam section below).

In order to be reenrolled into the fourth and subsequent year of study with continuing Ph.D. candidacy, a student must make satisfactory research progress, as determined by the research advisor.

*Please note: Permission of the Faculty Graduate Committee is required for any 300 level course to count towards the 8 minimum courses. If you wish to do that, please contact the Graduate Program Coordinator to obtain permission before registering for the course.*

## **FINANCIAL SUPPORT**

**Academic Year Support:** Enrolled PhD students in good standing are supported with full tuition and a stipend set by Princeton University. All first-year Ph.D. students are supported by fellowships. After the first year, Ph.D. students in good standing can expect to be supported by

Assistantships in Research (AR) and/or Assistantships in Instruction (AI), or some combination of the two. See below for more information on AI and AR appointments.

**Summer Support:** Students should discuss their summer plans in advance with their research advisor. Students who continue their research on campus with their advisor can expect to receive support for the months of July and August. With the approval of the student's advisor, students may seek a summer research internship. Please see section on Internships for more information.

**External Fellowships:** The Department recognizes that external fellowships are prestigious for our students and our department. Both new and continuing students are encouraged to apply for appropriate fellowships. More information is available at the Graduate School's website: <http://gradschool.princeton.edu/costs-funding/sources-funding/external-funding>

Students receiving a fellowship from a non-Princeton source are expected to accept that award and to notify the Graduate Program Coordinator in writing of the award details. Award recipients should also complete the Graduate School [External Fellowship Form](#). Students with external fellowships *may be* eligible to receive a bonus. Please see the Graduate School website for more information <https://gradschool.princeton.edu/policies/external-fellowships>

If you receive an external fellowship, please contact the Graduate Program Coordinator with the details of the fellowship.

## **INTERNSHIPS**

**Summer:** If you plan to hold an internship during the summer of 2018 (anytime between May 29, 2018 and September 12, 2018), the Graduate Program Coordinator should be notified of the details of the internship. International students with an internship in the US need to apply for Curricular Practical Training (CPT) and register for the Extramural Research Internship course, ELE515. Please contact the Davis International Center for more information on [Curricular Practical Training](#).

**Regular Academic Year:** If you will hold an internship during any part of the regular academic year (September 1, 2017 to May 31, 2018) please notify the Graduate Program Coordinator of the details of your internship. Internships should be for at least half of the semester. You will need to transfer your status to *In Absentia*, which can affect on-campus housing. An international student

with an internship in the USA will need to apply for CPT and register for the Extramural Research Internship course, ELE514. Please contact the Davis International Center for more information <http://www.princeton.edu/intlctr/graduate/for-f-1-students/employmenttraining/off-campus-employment/curricular-practical-trai/>

### ***THE GENERAL EXAM***

The General Exam consists of two components: (1) a research seminar; and (2) an oral exam. Both of these are to be completed prior to the end of the second year of study. The research seminar and oral exam are scheduled by the student and the student's advisor, during the General Exam period in the spring term of the second year, as set by the University. There should be at least 1 hour between the end of one component of the General Exam and the start of the second component. The performance of the Research Seminar and the Oral Exam are evaluated by the student's General Exam Committee (discussed below). Students must take the General Exam in the fourth term of the Ph.D. program during the General Exam period as set by the University. Requests for exemption must be made to the DGS. Failure to complete the General Exam by the end of the student's fourth term will be considered unsatisfactory academic progress, unless an exemption has been given.

***General Exam Committee:*** The General Exam Committee consists of at least three Princeton faculty members, one of which must be a departmental faculty member. The committee is selected by the advisor in consultation with the student. One member of the committee should be in a research field outside the student's immediate research.

***Research Seminar:*** The research seminar is a presentation of the student's research at Princeton, typically lasting about 45 minutes, followed by questions from the exam committee. The seminar is intended to demonstrate that the student is capable of independent research and has initiated a research topic that has the potential to lead to a doctoral dissertation.

***Oral Exam:*** The oral exam is administered by the student's General Exam Committee. It may be held one hour after the research seminar, or at a later date within one month of the Research Seminar. A student should talk with the General Exam Committee regarding the topics of the Oral Examination.

**Master of Arts (M.A.):** The M.A. degree can be earned by Ph.D. students en route to their Ph.D., after the student has: (a) completed the course requirements; (b) presented a research seminar approved by the student's General Exam Committee; and (c) passed the General Exam.

## AWARDS

Graduate students are eligible for a variety of internal awards, recognizing research and teaching achievements. Some of these awards and prizes are listed below. We encourage students to become familiar with these awards and strive to make themselves strong contenders.

### Department Awards:

- *AI Awards:* AI awards are given each year to outstanding AIs from the prior academic year. Students must be nominated by the faculty.
- *Early-Stage PhD Award:* This is awarded to Ph.D. students who have excelled during their first two years at Princeton. To be eligible for nomination, a second year student must have passed the General Exam with distinction by the end of their second spring semester. Students are nominated for this award by their advisor with two supporting letters provided by members of the General Exam Committee.
- *Best Dissertation Award:* This award recognizes students who have completed an outstanding doctoral dissertation. Students who have submitted their dissertation and passed their FPO during the 12 months preceding the end of the Spring semester are eligible to be nominated for this award. Nominations are submitted by the student's advisor together with two supporting letters provided by either the readers or members of the FPO committee.

### SEAS Awards:

- *School of Engineering Awards for Excellence:* These awards (formerly known as the Wu Prizes for Excellence) recognize senior Ph.D. students who have excelled in courses, research, and teaching during their time at Princeton. Students must be nominated by the Department.
- *Travel Awards:* The School of Engineering offers travel awards each semester. These awards recognize research accomplishments that have led to accepted conference



publications. To apply go to: <http://www.princeton.edu/engineering/graduate/travel-funds/>

#### *University Awards:*

- *Honorific Fellowships:* Honorific fellowships are awarded by the Graduate School to students of outstanding academic promise and superior academic achievement. Students must be nominated by their department in time to hold the fellowship during a final year of regular enrollment or the first year of DCE enrollment. Fellows must agree not to teach or engage in any other remunerative activities during the year. Please see the Graduate School website for more information: <http://gradschool.princeton.edu/costs-funding/sources-funding/fellowships/competitive>
- *Travel Awards:* Students can apply for travel awards from the Dean's Fund for Scholarly Travel. Please see the website for more information: <http://gradschool.princeton.edu/costs-funding/sources-funding/travel-grants>

### *ASSISTANT IN RESEARCH (AR) and ASSISTANT IN INSTRUCTION (AI)*

*Assistantship in Research (AR):* Students supported on AR appointments for part of the academic year are expected to be working on the associated research project during the portion of the academic year for which they are being supported.

*Assistantships in Instruction (AI):* Assistantships-in-Instruction are an important component of the overall teaching effort of the University. AIs assist faculty in the teaching of courses. This can include classroom instruction, laboratory supervision, and grading. It is important to have a clear idea of AI responsibilities at the beginning of the term. Students holding non-Princeton fellowships may also be appointed (and receive additional compensation) as an AI. If you are interested in being an AI for a particular course, we suggest you contact the instructor for that course. The Graduate Office assigns AIs prior to the start of the term based on course enrollment. Every Electrical Engineering graduate student is required to hold one 3-hour AI.

The typical AI assignment is referred to as a "3-hour AI." The term "3-hour" refers to the number of hours the AI spends in contact with students each week. A student with a 3-hour AI should expect to spend 10 hours per week on the duties assigned by the course instructor. A 3-hour AI

assignment is made in combination with an AR assignment. Students enrolled *In Absentia* may not hold AI assignments.

**Required AI Training:** All students who serve as AIs are required to attend a training session administered by the [McGraw Center for Teaching and Learning](#). Failure to attend will jeopardize the financial support for that semester. Students who cannot attend the scheduled session should inform the Graduate Program Coordinator to arrange for an alternative training time.

## **DEGREE REQUIREMENTS**

The average time to complete a Ph.D. is five years. However, students are encouraged to complete the degree requirements earlier if possible. Discuss your progress and a tentative timeline for your Ph.D. with your advisor at regular intervals.

**PhD Degree Requirements:** In the first two years, students must complete eight graded, graduate-level courses with a minimum grade point average (GPA) of 3.3. Six of these courses must be completed in the first year. In the second year, students are expected to demonstrate competence in certain core subjects relevant to their chosen area of study, as determined by the General Examination. Each doctoral candidate must

- complete all [course requirements](#) (see page 10 *Course Requirements*)
- pass the [General Exam](#)
- complete one 3 hour [AI appointment](#)
- satisfy the [minor requirement](#)
- complete the [responsible conduct in research training](#)
- submit and successfully defend an original doctoral dissertation

**M.S.E. Degree Requirements:** The M.S.E. degree is typically awarded to students in the Ph.D. program who, for personal or academic reasons, cannot complete the Ph.D. degree. The M.S.E. is a terminal degree. To qualify for the M.S.E. degree a student must:

- Enroll as a full-time Ph.D. candidate for at least one academic year.
- Complete six graded graduate-level courses, with a GPA of 2.7 or better. Four of the courses must be 400 or 500-level graded ELE courses.
- Complete an M.S.E. thesis under the supervision of a faculty advisor.

## *STUDENT STATUS*

There are two very broad student statuses for degree-seeking students: enrolled and unenrolled. Below are the Graduate School links explaining these status types. In order to change your status you must login to TigerHub and complete and submit the Status Change Request, along with the required documentation. Please note, student benefits can be affected by a change from enrolled to unenrolled status.

Before making a status change you should: (1) discuss the change with your advisor, the DGS or the Graduate Program Coordinator; and (2) check with the Davis International Center (if you are an international student on a visa) about your visa standing after the change. For information on benefits affected with a status change, please see:

<http://gradschool.princeton.edu/sites/gradschool/files/docs/ACA/Benefit%20Changes.pdf>

***Regular Enrolled Status:*** To retain your regular enrollment status, you must complete academic year sign-in in September, before the start of classes when notified to do so by the Graduate School. <http://gradschool.princeton.edu/academics/statuses/degree-seeking-statuses>

***In Absentia Enrolled Status:*** This status is for students pursuing degree-related work but who are not in residence. Typically, this status is used if a student has an internship during the regular academic year or is working at another institution during the academic year. This status is only available to students who have successfully completed the General Exam requirement. To be considered for *In Absentia* status the following conditions must be met:

- Demonstrated need to use educational resources that cannot be obtained at Princeton
- Work away from Princeton will directly contribute to the student's degree progress

For more information about *In Absentia* status please see

<http://gradschool.princeton.edu/academics/statuses/degree-seeking-statuses/absentia>

***Dissertation Complete Enrollment (DCE):*** Students who have not completed their degree within the department's normal program period (5 years or less) have the opportunity to be enrolled for up to 2 additional years in Dissertation Complete Enrollment (DCE).

<http://gradschool.princeton.edu/academics/statuses/degree-seeking-statuses/dissertation-completion-enrollment-dce>

***Leave of Absence Unenrolled Status:*** Students who need to interrupt their studies temporarily for personal, medical, or professional reasons can apply for a Leave of Absence. For more information, please see the website: <http://gradschool.princeton.edu/academics/statuses/degree-seeking-statuses/leave-absence>

***Enrollment Terminated, Degree Candidacy Continues (ET/DCC):*** Students who are continuing to make satisfactory progress toward completing their degree may enter Enrollment Terminated/Degree Candidacy Continues (ET/DCC) status if they are: (1) beyond the defined program length; (2) have exhausted DCE status; (3) chosen not to enter DCE status; or (4) must leave to pursue other opportunities, typically permanent employment. For more information, please see the website: <http://gradschool.princeton.edu/academics/statuses/degree-seeking-statuses/enrollment-terminated-degree-candidacy-continues-etdcc>

## ***GRADUATE PROGRAM COMMITTEES***

***Faculty Graduate Committee:*** Each year the department chair appoints a faculty committee for the graduate program. The committee is chaired by the DGS. The members of this committee serve as departmental resources for students to contact beyond their academic or research advisors. For the 2017-18 academic year, the members of the Faculty Graduate Committee are:

### **Director of Graduate Studies**

Prof. Naveen Verma

B226, [nverma@princeton.edu](mailto:nverma@princeton.edu)

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### **Committee Members**

Prof. Emmanuel Abbe

B-322, [eabbe@princeton.edu](mailto:eabbe@princeton.edu)

Prof. Claire Gmachl

Prof. Nathaie deLeon

B-320, [npdeleon@princeton.edu](mailto:npdeleon@princeton.edu)

Prof. Niraj Jha

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B-227, <a href="mailto:cgmachl@princeton.edu">cgmachl@princeton.edu</a>	B-227, <a href="mailto:jha@princeton.edu">jha@princeton.edu</a>
Prof. Prateek Mittal	Prof. Barry Rand
B-326, <a href="mailto:pmittal@princeton.edu">pmittal@princeton.edu</a>	B-414, <a href="mailto:brand@princeton.edu">brand@princeton.edu</a>
Prof. Kaushik Sengupta	Prof. Jeff Thompson
B-216, <a href="mailto:kaushiks@princeton.edu">kaushiks@princeton.edu</a>	B303, <a href="mailto:jdthompson@princeton.edu">jdthompson@princeton.edu</a>

**Graduate Student Committee:** The Graduate Student Committee (GSC) is organized in accordance with the University's "[Rights, Rules, and Responsibilities](#)." The Committee is elected each fall by the ELE department graduate-student body. The GSC is an important channel for expressing your ideas, concerns, and opinions about all aspects of graduate student life in the department, so consider joining! The GSC meets periodically with the Department Chair and DGS, with junior faculty candidates, and with the departments external Advisory Council. In addition, the GSC organizes a variety of social and academic activities. The Faculty Graduate Committee frequently solicits the opinions of the Graduate Student Committee and uses it as a sounding board for pending policy issues.

## PART 3: CLOSURE

### *APPLYING FOR THE Ph.D. DEGREE*

**Preparing for the Dissertation and Final Public Oral (FPO):** The two final requirements for the Ph.D. are:

- A completed dissertation that has been read and approved by at least two readers;
- Successfully passing the Final Public Oral (FPO) Exam, an examination of the dissertation material. The FPO is the defense of the student's dissertation before a committee selected by the advisor in consultation with the student. During the FPO the student gives a formal oral presentation of their dissertation research. The presentation is followed by questions by the FPO Committee and others in attendance. After the question/answer period, the committee will make a final decision to recommend (or not) the granting of the Ph.D.

To be eligible to graduate with a Ph.D., a student needs to be in good standing with the University, have completed all departmental and Graduate School requirements, and submitted all the required paperwork by the degree deadline. In preparing for the FPO, students should review the

information below, which outlines the process and timeline, and provides links to important policies and documents.

**Degree Dates:** Degrees are conferred five times a year. The dates degrees are awarded correspond with the meetings of Princeton University's Board of Trustees, which confers advanced degrees. Dissertation title pages should reflect the month and year of the date the degree is conferred, not the actual date of defense. For a student to be awarded the Ph.D. on a degree date, the student must have successfully completed the FPO and returned all final paperwork to the Graduate School by the corresponding deadline.

Degree Deadline for 2017-18	Degree to be Awarded on:
Friday, September 1, 2017	Saturday, September 16, 2017
Friday, November 3, 2017	Saturday, November 18, 2017
Friday, January 5, 2018	Saturday, January 20, 2018
Friday, March 30, 2018	Saturday, April 14, 2018
Tuesday, May 22, 2018	Tuesday, June 5, 2018

**Selecting Readers:** There must be at least three principal readers of a dissertation, normally members of the Princeton Faculty at the rank of Assistant Professor or higher. One of the three readers must be a current regular ELE faculty member, normally the student's advisor. If the student's advisor is outside ELE, a regular ELE department faculty member must be a dissertation reader. Any non-Princeton reader must be of a comparable standing in a relevant branch in the scholarly community. Please forward the prospective reader's C.V. to the Graduate Program Coordinator for prior review and approval by the Graduate School.

**Selecting FPO Committee Members:** The FPO committee consists of three principal examiners, all at the rank of Assistant Professor or higher, at least two of whom have not been principal readers of the dissertation. One of the three examiners must be a current regular ELE faculty member, normally the student's advisor. If the student's advisor is outside ELE, a regular ELE department faculty member must be a dissertation reader. If the student is co-advised, both advisors must be on the FPO committee in addition to two whom have not been principal readers. Any external examiner must be of a comparable standing in a relevant branch in the scholarly community. Please forward the prospective external committee member's C.V. to the Graduate Program Coordinator for prior review and approval by the Graduate School.

**Embargoes:** The Graduate School can approve a two-year embargo of dissertation work, most often awarded to pursue book publication of dissertation materials. An embargo places a two-year hold on the online publication of the dissertation. Most dissertations will not require an embargo. For more information on embargoes review the Embargo Policy. An embargo must be requested when submitting the degree application by completing the Ph.D. Dissertation Embargo Request and Approval Form within the degree application system.

If a dissertation needs to be reviewed for possible patentable results and subsequent patent application either by the University or by a non-University agent, or if it must be reviewed by an outside sponsor for the proprietary information or results, then these processes must be completed before the student initiates the online advanced degree application process and the department requests for holding the FPO examination.

### ***Timeline to FPO***

#### **More than two months before:**

- Review the [Mudd Library Dissertation Format Requirements](#).
- Submit final chapters to your adviser(s) for review.
- Confirm your principal readers and examiners, and confirm that your committee meets the Graduate School and departmental requirements.
- Confirm your readers and FPO Committee members ([Selecting Readers and FPO Committee Members](#)).
- Confirm FPO date, time, and location. Note: If you are serving as an AI in the semester that you are defending the dissertation, consult with the Graduate Program Coordinator about the FPO date to ensure that you may remain enrolled and eligible to serve as an AI through the end of the term. Enrollment continues only through the end of the month in which a student's FPO is held. Any exceptions must be discussed with Academic Affairs in the Graduate School.

#### **At least six weeks before:**

- Distribute final draft of your dissertation to readers.
- Incorporate suggested edits into dissertation.

**More than two weeks before:**

- Submit a final copy of your dissertation to the department in a 3-ring binder.
- Complete advanced degree application (through TigerHub). For an application to be considered complete, the following materials (as PDFs) must be included:

*Materials submitted by the student*

- A copy of the title page, correctly formatted
- A copy of the abstract, 350 words or less
- Ph.D. Dissertation Embargo Request and Approval form (if applicable)
- A C.V. of any external examiner or reader, previously approved the Graduate School ([Selecting Readers and FPO Committee Members](#))

*Materials submitted by the department*

- Request to hold final public oral
- Prior Presentation and Publication form reviewed, approved, and signed by adviser(s)
- Reader reports completed and signed by principal readers of the dissertation

**Three days before:**

- Confirm that your FPO announcement has been posted

**Day of FPO:**

- Defend!
- Remind your adviser to email the Graduate Program Coordinator with the FPO results and the names of the committee members present.
- Bring the following documents to the Department Graduate Program Office:
  - Two professionally bound copies of the dissertation (one is for Mudd)
  - An email confirming that you have successfully uploaded your thesis to the UMI website, per Mudd Library's rules <http://www.etdadmin.com/cgi-bin/school?siteId=408>



- [Checklist for Students Departing the University](#) (must be completed by all currently enrolled students and ET/DCC students who still have library privileges).
- Survey of Earned Doctorates <https://sed.norc.org/showRegister.do> (please print two copies of the confirmation page).
- Graduate School Exit Questionnaire [https://gradschool.exitquestionnaire.az1.qualtrics.com/SE/?SID=SV\\_6zDxgyDwKqgFRtn](https://gradschool.exitquestionnaire.az1.qualtrics.com/SE/?SID=SV_6zDxgyDwKqgFRtn) (Please print two copies of the confirmation page).
- ELE Department Exit Info Form <https://www.ee.princeton.edu/guide/forms/ExitInfoForm-GS.pdf> Please update it with your current address, job and email information.
- Webpage Release form <http://www.ee.princeton.edu/grad/WebpageReleaseForm.pdf>
- Clean out desk and return desk/office/lab keys.

The Graduate Program Office will help you with the required submissions to Seeley G. Mudd Manuscript Library and The Graduate School.

### *APPLYING FOR THE M.S.E. DEGREE*

To apply for the M.S.E. degree, a student must meet the [MSE requirements](#) set forth above. The [degree deadline dates](#) set forth above also apply to the MSE degree. The MSE thesis must be read and evaluated by the student's advisor. The advisor must complete a report evaluating the thesis and assign a grade for the work. No other readers are necessary. Instructions for preparing the dissertation in proper form for its archiving in Mudd Library may be obtained from their website <https://rbsc.princeton.edu/sites/default/files/MuddDissertationRequirements.pdf> However, the best guide on what information should be included in the thesis would come from conversations with your advisor. The student is responsible for costs incurred in the preparation of the thesis (copying, binding, etc.).

The student must also:

- Submit the Advance Degree Application in TigerHub.
- Complete the Checklist for Students departing the University form <http://gradschool.princeton.edu/sites/gradschool/files/Student%20Checkout.pdf> and deliver the completed form to the Graduate Program Coordinator. If you live in campus housing, the Housing Department must complete and sign the housing section of the End

of Enrollment form. Firestone library must complete the library section. If you have outstanding fines or books to be returned, do so before requesting the library to complete and sign the form.

- ELE Department Exit Info Form <https://www.ee.princeton.edu/guide/forms/ExitInfoForm-GS.pdf> Please update it with your current address, job and email information.
- Clean out desk and return desk/office/lab keys.