



JOHNS HOPKINS  
UNIVERSITY

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Department of Electrical and Computer Engineering

# **Graduate Student Manual**

## **PhD Program**

**2024-2025**

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## 1. Welcome

Welcome to the Johns Hopkins University Electrical and Computer Engineering (ECE) Ph.D. program advising manual. We're excited to introduce you to this comprehensive resource designed to support you throughout your academic journey. Whether you're a new student navigating the intricacies of program requirements or a seasoned graduate embarking on your thesis or dissertation, this manual serves as your compass, providing invaluable guidance, policies, and procedures. Within these pages, you'll discover a wealth of information on course selection, research opportunities, milestones, and academic policies tailored specifically to our ECE graduate community. Our goal is to empower you with the knowledge and tools needed to chart a successful path toward your academic and professional goals. Welcome to the Johns Hopkins ECE family, where we're dedicated to your success and academic growth every step of the way.

This document is not phrased to professional legal standards. You will want to clarify any unclear issues with these Departmental professors and staff:

- Senior Academic Program Coordinator (Ph.D.) – Ashley Moriarty
- Director of Graduate Studies – Associate Professor, Mark Foster
- Your faculty advisor
- Senior Academic Program Coordinator (M.S.E. and BS) – Malik Johnson
- Department Head – Professor, Pablo Iglesias
- Administrative Manager – Nicole Aaron

## 2. General Requirements

The Ph.D. program requirements are applicable to both part-time and full-time students within the program. Typically, it is expected that the WSE Ph.D. will be completed within 7 years; however, a university-approved leave of absence does not count toward this limit. For further details regarding Time to Degree Limits, please refer to the information available at <https://homewoodgrad.jhu.edu/graduate-board/new-grad-board-residency-page/>

The time limits for both the ECE Departmental Qualifying Exam and the Graduate Board Oral Exam are outlined within the context of full-time graduate study. Part-time students are rare, by exception only, and must arrange individualized time limits for these exams in consultation with their advisor and the Director of Graduate Studies. In the absence of pre-arranged time limits, the standard time limits will be enforced.

It is important to note that all applicants seeking admission to our graduate program leading to a Ph.D. must hold a bachelor's degree or its equivalent at the start of their degree matriculation at JHU.

## 2.1 University and Whiting School Degree Requirements

Johns Hopkins University and Whiting School of Engineering (WSE) have degree requirements in addition to the Department's requirements. These include:

- Two semesters of full-time course registration, also called “residency”.
- Course registration every semester.
- Completion of responsible conduct of research and academic ethics courses.

Visit <https://e-catalogue.jhu.edu/arts-sciences/full-time-residential-programs/graduate-policies/academic-policies/#text> for information on school-wide requirements.

### 2.1.1 Residency Requirement

Once students begin their graduate course of study toward a degree, they must complete a minimum of two consecutive semesters of registration as a full-time, resident graduate student on campus. To qualify as a resident student, the student must be present on campus and working fulltime towards fulfilling the requirements for the degree. Complete information is available on the JHU Graduate Board's website at <https://homewoodgrad.jhu.edu/graduate-board/new-grad-board-residency-page/>

### 2.1.2 Responsible Conduct of Research Course

Ph.D. graduate students will be required to take the “Responsible Conduct of Research” training course (AS.360.625). WSE Ph.D. students are expected to complete the course by the end of their first year of enrollment. Failure to comply with this requirement by the end of the first year of enrollment may result in the inability to conduct research and possible probation for lack of progress towards a degree. Lack of compliance and a timeline for completion should be included in a student's annual review.

Additional information is available at <https://engineering.jhu.edu/education/graduate-studies/graduate-academic-policies-procedures/>

### 2.1.3 Academic Ethics

As a graduate student, you will be automatically enrolled in the short online course, Graduate Academic Ethics (EN.500.603.01), which teaches academic and ethical responsibilities. This approximately 30-minute tutorial must be completed in the first eight weeks of the student's first semester with a passing grade. The Whiting School of Engineering will notify new students when the course is available, typically right after the Add period for that semester (fall/spring). Do not drop the course when you see it. If a student does not complete the course satisfactorily, they will receive a grade of ‘F’ for the course on their transcript and will need to take the course again for a passing grade (P). The ‘F’ will remain on the student's transcript regardless of the retake, per the WSE graduate course retake policy.

#### 2.1.4 Departmental Course Registration and Credits

All Whiting School of Engineering graduate courses are assigned credit hours.

- Full-time WSE PhD students should be enrolled in a combination of WSE classes and/or research for a total of at least 20 WSE credits per semester. The exception to this rule is some students in their first year and/or not conducting research in a lab for an approved reason. Note that students enrolled in fewer than 9 credits per semester will not meet the full-time enrollment requirement for the university, which may affect financial aid and residency requirements for all and create visa concerns for international students.
  - EN.520.895 ECE Departmental Seminar and other seminars – 1 credit
  - WSE courses, both undergraduate and graduate – 3 or 4 credits
  - EN.520.802 Ph.D. Dissertation Research – 3-20 credits
  - Audited courses do NOT count as a grade or toward a full-time credit load.
  - A course is satisfactorily completed if a grade from A+ to C- or a “P” is obtained.
  - The maximum per-semester Ph.D. student enrollment limit is 25 credits. If there is a need to register for more than 25 credits, please contact the Senior Academic Program Coordinator for PhDs.
- Full-time Ph.D. students who have not passed their Departmental Qualifying Exam must satisfactorily complete between 9-20 credits per semester (fall/spring) until they have a Research Advisor. This should be three courses with 3-4 credits each, the ECE Departmental Seminar (EN.520.895) and the remainder of credits in ECE Dissertation Research Course (EN.520.802) in their academic advisor’s section. One of the three courses should be an Independent Study course with a faculty member with ECE Ph.D. supervising privileges unless their academic advisor approves replacing this Independent Study course with another course. Until the Departmental Qualifying Examination is passed, no more than one Independent Study course per semester can be counted toward these three courses.
- Although there are no standardized course requirements, students are presumed to be prepared for the Final Graduate Board Oral examination by studies equal to six graduate level (xxx.600-xxx.799) courses in their field of specialization student’s faculty advisor will provide guidance on which courses to take to reach this level of preparation.
- Full-time Ph.D. students who have passed their Departmental Qualifying Exam are expected to register for 20 credits of Dissertation Research (EN.520.802). Ph.D. students may continue to take academic courses with the approval of their Research Advisor.
- Ph.D. students on JHU payroll for any part of the summer should register for 9 credits of Summer Graduate Research (EN.520.803) each summer. See more information below in Section 2.2.5
- Failure to register for any courses by the JHU published deadlines may be interpreted as a withdrawal from the program.

Visit the Whiting School's Frequently Asked Questions page at <http://homewoodgrad.jhu.edu/academics/wse-graduate-credit-hours/> for more information.

#### 2.2.5 EN.520.803 Graduate Research – Summer – annual enrollment required

Ph.D. students working fulltime towards their degree over the summer months and on JHU payroll for any part of the summer must register for 9 credits in their Research Advisors section of the course EN.520.803 Graduate Research. There is no tuition charge for this course. Registration in this course accurately reflects the fulltime resident academic efforts of PhD students over the summer months. As long as students continue to make progress over the summer, their advisor will submit a P (Pass) grade at the end of the summer term, which will be reflected in student transcripts. FICA Tax will be withheld from pay of any Ph.D. student who does not enroll for this course, as there is a US federal requirement that students be enrolled full-time, year-round to be exempt from "FICA" or Social Security Tax.

#### 2.2.6 Interdivisional Course Registration

Students may wish to register in another division for a course, like through the Engineering for Professionals program or in any of Hopkins's eight other divisions. Such students should complete the Interdivisional Registration (IDR) Form. Visit <https://studentaffairs.jhu.edu/registrar/students/interdivisional-registration/> for information and a link to the IDR form. Once completed, the form can be submitted via SEAM's online form here: <https://support.sis.jhu.edu/case-home>. Submitting an IDR request is not a guarantee of enrollment.

#### 2.2.7 Engineering for Professionals courses

Many interesting and relevant online Electrical and Computer Engineering and other engineering courses are available via our Engineering for Professionals program.

- Up to four Engineering for Professionals courses can be counted toward the master's degree. The PhD does not require any specific courses. Please refer to the ECE MSE Advising Manual for more specifics.
- Visit the EP Courses page to find available courses.  
[https://ep.jhu.edu/courses/?query=&filters%5Bsemester%5D=&filters%5Bprimary\\_program%5D=electrical-and-computer-engineering&filters%5Blocation%5D=&filters%5Bmode%5D=](https://ep.jhu.edu/courses/?query=&filters%5Bsemester%5D=&filters%5Bprimary_program%5D=electrical-and-computer-engineering&filters%5Blocation%5D=&filters%5Bmode%5D=)
- Please discuss proposed Engineering for Professionals courses with your faculty advisor to confirm that they would qualify for your degree.
- The course registration process is different from the standard registration in the Student Information System (SIS). You must complete the Interdivisional Course Registration to register for an EP course.

## 3. Ph.D. Program Requirements

The Ph.D. degree certifies that the holder has demonstrated the ability to conduct independent research and develop new knowledge.

### 3.1 Summary of Degree Requirements

To fulfill the requirements for the Electrical and Computer Engineering Ph.D. degree, students must successfully complete the following three primary checkpoints, in addition to satisfying the University and Whiting School Ph.D. residency requirements and fulfilling the ECE department's course load requirements:

1. Pass the Departmental Qualifying Examination and select a Research Advisor.
2. Submit a Preliminary Research Proposal and pass the Graduate Board Oral Examination.
3. Submit a Dissertation and successfully complete a Public Dissertation Defense.

### 3.2 Departmental Qualifying Examination and Research Advisor Selection

#### 3.2.1 Departmental Qualifying Examination

Students must pass the Departmental Qualifying Examination (DQE) before the beginning of the fourth semester of graduate study. Only those enrolled in the Ph.D. program are eligible to take this examination. To complete the examination, the Academic Program Administrator will send a survey to students the semester before the proposed DQE. Students must select and complete the examinations posed by three examiners eligible to supervise doctoral dissertations in the Department of Electrical and Computer Engineering, with one being their anticipated Research Advisor.

The respective examiners grade completed examinations, but the collective decision on whether the student has adequately fulfilled the Departmental Qualifying Examination requirement is made by the ECE Department faculty as a whole. This decision considers the student's cumulative academic performance in the graduate program, consultation with the anticipated doctoral research advisor, and performance on the examination. The Departmental Qualifying Examination may only be taken twice and Fall and Spring qualifying examinations are given over a period of seven days typically the week before the start of classes.

The possible outcomes of the DQE are...

- Pass – no additional action is necessary
- Conditional Pass – with any of the following possibilities:
  - Conditions – which are to be met by a specified date
  - Partial Retake - required by a specified date
  - Full Retake - required by a specified date
- Failure

Conditions must be met, or the retake must be passed to avoid a Failure, which is grounds for automatic dismissal from the Ph.D. program. Only one retake is allowed. If a student fails the retake they will be dismissed from the PhD program.

### 3.2.1 Select a Research Advisor

Prior to the Qualifying Exam, the student has an Academic Advisor. Upon passing the Qualifying Examination, the student must immediately identify a Research Advisor who is willing and able to supervise and support their doctoral research. The Research Advisor sets requirements for the remainder of the program, which may include a teaching obligation, specific coursework, a reading program, or a preliminary research project.

As the Research Advisor must be identified immediately upon passing the Qualifying Exam, students should identify and consult with a potential Research Advisor in advance of taking the exam and confirm their support. Ideally, the Research Advisor is chosen from among the faculty with whom the student carried out an Independent Study course or other research project in their first year. Often the Research Advisor will be the student's prior Academic Advisor, but this is not guaranteed or required. Upon passing the Qualifying Examination, the Academic Program Administrator will give the student a Research Advisor Form to be signed by both the student and Research Advisor.

Either the student or the Research Advisor can discontinue the relationship for any reason. In the event of the discontinuation of a Student-Research Advisor relationship, a new Research Advisor must be selected within two months. If a student is without a Research Advisor, they are placed on probation.

## 3.3 Research Proposal and Graduate Board Oral Exam

### 3.3.1 Submit a written Research Proposal

Ph.D. students must develop a written research proposal prior to taking the Graduate Board Oral Examination. Prior to taking the Graduate Board Oral (GBO) examination, students should work with their Research Advisor and write a research proposal. The written proposal should be sent to the Graduate Board Oral committee and the Academic Program Administrator at least two weeks prior to the scheduled exam date.

The written proposal should be no more than 6 pages with 1-inch margins and 10-point font, excluding references. The proposal should be organized into 3 sections as follows.

1. Description of the significance of the proposed work
  - a. Describe the problem that will be addressed
  - b. Summarize the current state of the art and the limitations of current approaches
2. Description of the innovation of the proposed work
  - a. Describe what is new in the proposed research and how it will address the limitations of current approaches
  - b. Describe the anticipated impact of the proposed research in terms of what difference it will make if it is successful.
  - c. Describe any preliminary results that have already been achieved for the proposed work.



3. Description of the anticipated approach to completing the research
  - a. Organize the work into the major tasks and describe them
  - b. Provide an anticipated timeline for the completion of the tasks
  - c. Summarize the anticipated risks to success and provide some alternative strategies

### 3.3.2 Pass the Graduate Board Oral (GBO) Examination

Students must pass the Graduate Board Oral (GBO) Examination. The exam should be scheduled before the start of the sixth semester, although the exam can take place after this date. The purpose of the examination is to test the depth and breadth of the student's knowledge and reasoning abilities. The examination typically is based on the student's course background but may include the proposed dissertation topic.

The student and their Research Advisor should select the GBO committee. The GBO committee will consist of 5 examiners. There will be 2 examiners from inside the department and 2 from outside the department, plus a 5th member either inside or outside the department. There must also be 1 additional inside alternate and 1 additional outside alternate in the unlikely event of a last-minute cancellation for a total of seven faculty members. The Research Advisor always counts as an inside examiner and so do all faculty with primary appointments in Electrical and Computer Engineering, including BDPs. Faculty holding primary appointments outside of Electrical and Computer Engineering who have an Electrical and Computer Engineering affiliation are considered outside examiners. Outside examiners are intended to contribute valuable perspectives and ensure that the department doesn't let its standards slip. At least two of the outside examiners, including the outside alternate, must be tenure-track Associate Professor, Professor, or Emeritus Professor at JHU. The most senior outside examiner will typically serve as committee chair and an alternate for committee chair is also required. Per the GBO rules, the exact format is at the discretion of the GBO chair, however, we anticipate it will consist of a short (approximately 10-minute) presentation by the student on their research followed by the GBO exam. This is a closed exam and the scope of the GBO questions is not limited to the candidate's research and can cover things such as coursework etc. You may contact your faculty examiners before your GBO to inquire about their expectations. Please keep in mind that an examiner is not required to discuss expectations – if they choose to do so, it is a courtesy to you. The GBO exam will be scheduled for 2 hours.

Most commonly, examiners are tenure-track JHU faculty. However, the Graduate Board can approve scholars from outside JHU, or research faculty at JHU. The department must petition the Graduate Board 4 weeks in advance to authorize such persons, see below for details on this process. There can be at most one committee member that requires approval by the Graduate Board.

It is the department's job to schedule the student's GBO. Students preparing to take the GBO must contact the Academic Program Administrator to make arrangements at least six weeks before the intended exam date. This will allow time to confirm the availability of the proposed

examiners and notify the Graduate Board by their notification deadlines. The hardest part of the GBO is finding an appropriate committee of 5 faculty examiners plus 2 alternates who are all free at the same time. The Academic Program Administrator is responsible for scheduling the examiners, finding a room, and submitting required forms to the Graduate Board Office. The Graduate Board chooses a GBO committee chair from among the outside committee members. The Administrator sends a confirmation email to all the committee members, committee alternates, and the candidate.

The possible outcomes of the GBO examination include: an unconditional pass, a conditional pass (with the requirements to be met written down on the report form), or failure. In the latter case, if the chair of the GBO committee recommends reexamination, he/she must indicate with whom and when. At least one person from the original committee must be on the next committee. The Graduate Board does not allow more than two examinations. After the GBO examination, the chair of the GBO committee submits the original signed GBO report form to the Administrator, where a copy will be placed in the student's file and updates the ECE graduate student list.

For more information on the GBO and petitioning for authorization of an examiner outside of the University, consult the following website: <https://homewoodgrad.jhu.edu/graduate-board/new-grad-board-residency-page/>

### 3.4 Dissertation and Public Dissertation Defense

#### 3.4.1 Submit a written Dissertation to the Department

The Dissertation must have two Dissertation Readers with the first reader being the Research Advisor. The Director of Graduate Studies approves the choice of readers nominated by the Research Advisor. <https://homewoodgrad.jhu.edu/graduate-board/degree-candidacy/>

Referees (also known as readers) are responsible for signing the 'readers letter/report' that confirms that the dissertation is a significant contribution to knowledge and worthy of publication. At least one referee should be internal to the student's academic program, external referees (to the university) must be approved by the Graduate Board through the same process as external examiners participating in the Graduate Board oral examination.

The Graduate Board specifies that two principal readers are responsible for submitting a written report recommending acceptance of the dissertation. The report should testify that the work is a significant contribution to knowledge worthy of publication in its present form or with appropriate modifications and that it is worthy of acceptance in partial fulfillment of the University requirements for the Ph.D. It must contain the student's full name and the complete final title of the dissertation. The letter must be on letterhead, signed by both readers, and include the readers' ranks, titles, departments, and schools.

### 3.4.2 Complete a Public Dissertation Defense

The student must propose a dissertation committee consisting of between three and five members, including the Research Advisor. At least two must have tenure-track appointments and three have Ph.D. supervising privileges in the ECE Department.

The Research Advisor submits a signed reader letter to the Academic Program Administrator. The student submits a copy of their Ph.D. dissertation, the names of the Dissertation Committee, and an abstract of the dissertation to the Academic Program Administrator, who informs the faculty by email that the dissertation and readers' letter are available in the department office and schedules the Dissertation Defense. The student also sends the abstract and a headshot to the Academic Program Administrator who is responsible for producing and posting the announcement of the defense. **Note that there will be a minimum of three weeks needed between the submission of these materials from both the student and research advisor and the dissertation defense.**

Once the Dissertation Committee has been approved, the Academic Program Administrator prepares the Doctoral Dissertation Defense Report Form. The Dissertation Committee administers a Public Dissertation Defense no sooner than three weeks after submission of the dissertation and votes on the acceptance of the dissertation. The chairman of the Dissertation Committee should complete and sign the Doctoral Dissertation Defense Form and return it to the Academic Program Administrator.

International students must visit the International Office at least two months in advance of the defense date to ensure that their visa status and application for their EAD card and Optional Practical Training is in place. Further information on the dissertation defense preparation is available at the following: <http://engineering.jhu.edu/ece/dissertation-defense-preparation>

## 3.5 After the Dissertation Defense

### 3.5.1 Submission of Dissertation to the Library

The guidelines for the preparation of dissertations can be obtained from <https://www.library.jhu.edu/library-services/electronic-theses-dissertations/formatting-requirements/>. Students are responsible for paying the submission fee.

Dissertations will be submitted only by electronic media. Hardbound books will not be printed on campus, but information will be provided on where dissertations can be printed and bound. The library will do some brief format checking. They will then approve the submission or email the student about necessary changes. For information, see <http://www.library.jhu.edu/library-services/electronic-theses-dissertations/>.

Students who have successfully defended are typically able to meet any edits/content requests by their dissertation committee within 2-3 weeks after defense. Extensions will need to be discussed with the student's research advisor; note that exceptionally long delays may result in being put on probation for lack of timely progress towards the degree.

### 3.5.2 Academic Deadlines

Students preparing to complete their degree program in a given semester should see the Academic Program Administrator to ensure that all necessary forms and requirements have been completed and submitted **prior** to the academic deadlines for the semester. Graduation and registration deadlines can be found on the Homewood Registrar's website: <https://homewoodgrad.jhu.edu/graduate-board/deadlines/> The deadlines to submit all certification material are usually Fall (mid-October), Spring (early-April), and Summer (late-July).

Students who have not completed their requirements by the first day of classes **must** register for the current semester. Those who complete their requirements prior to the Grace period deadline will receive a full tuition refund for the current semester, including any non-resident status fees. Tuition paid from departmental funds or research grants will also be refunded.

### 3.5.3 Confirmation of Degree Completion

Those who have completed their requirements in the summer or fall will receive an interim certificate from the registrar's office indicating that all requirements have been met, and a notation will be made on their transcript. Diplomas are awarded once a year, at the May Commencement. Additional information is available at <https://studentaffairs.jhu.edu/registrar/students/graduation/>

There are a variety of options to obtain confirmation of degree completion, also called an "anticipated degree completion" letter. This may be necessary if one's diploma has not yet been issued or if confirmation other than a diploma is necessary.

- Many employers, universities, and entities will accept a letter from the Department of Electrical and Computer Engineering. Please contact the Academic Program Administrator to request an "anticipated degree completion" letter.
- Some employers, universities, and entities will require confirmation at the Dean, school or university level. Please contact Christine Kavanagh, Associate Vice Dean for Graduate Affairs and Lifelong Learning at [christinekavanagh@jhu.edu](mailto:christinekavanagh@jhu.edu) to request this "anticipated degree completion" letter.
- The Registrar will provide degree verifications after the degree is conferred. Visit the Enrollment and Degree Verifications page to request one <https://studentaffairs.jhu.edu/registrar/students/enrollment-degree-verifications/>

## 4. Miscellaneous Academic Information

### 4.1 Course Assistant Positions

To assist in the teaching function of the Department, Course Assistant (CA) opportunities are either assigned and/or provided to students to grade homework and papers, conduct laboratories, and hold office hours. Position openings are announced at the beginning of each semester and/or are included in appointment letters as soon as feasible.

## 4.2 Ethics

Graduate students are expected to be aware of academic ethics and of actions that constitute unethical behavior. In brief, students must submit work that represents their own efforts. When ideas and/or results are drawn from other sources, those sources must be cited in the submitted work. Students may not collaborate or discuss solutions to any assignment before submission without explicit permission from the instructor. Use of email is to be strictly professional. Unprofessional or inappropriate email will be considered a violation of university ethical policies.

Violations of academic ethics can have a severe impact on a student's program beyond the penalties described below. Those involved in unethical behavior will lose the confidence of the faculty and may be unable to find any faculty member willing to serve as their Research Advisor.

Faculty members will usually deal directly with students suspected of unethical behavior in their courses and will assign an appropriate penalty. The penalty may be a failure in the assignment or examination or failure in the course. Faculty and students may seek the assistance of the Department Chair when an agreement on the charges and penalties cannot be reached. In all cases, a summary of the charges and penalties will be placed in the student's permanent file. Information about the academic policies of the Whiting School of Engineering can be found at <http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/>.

## 4.3 Research/Academic Probation

Whenever it is determined that a graduate student has failed to meet minimum academic, research, CA, and/or TA requirements, that student may be placed on academic probation. This change in status requires a formal letter and a meeting between the student and either their Faculty Advisor, Department Head, and/or departmental Director of Graduate Studies. The letter should clearly outline the student's research/academic shortcomings, indicate the corrective measures necessary to remain in the program and state the length of the student's probationary period. Any funding ramifications for the student should be included as well.

Please see the full policy for more information on the process, appeals, etc.

<https://engineering.jhu.edu/education/graduate-studies/graduate-academic-policies-procedures/> (Select the Homewood Schools Policy for Graduate Student Probation, Funding Withdrawal, and Dismissal Tab).

## 4.4 Graduate Student Annual Review Policy

The Johns Hopkins University and Whiting School of Engineering require that once per academic year, all full-time Homewood graduate programs carry out a written review of all doctoral students conducting thesis research. The review includes the opportunity for the student to offer self-evaluation of their research and academic progress. The evaluation form used in the ECE department is at the end of this advising manual under Academic Resources.

In Spring, students should initiate the evaluation process with their Research Advisor. The students should complete the evaluation form and meet with their advisors to discuss progress

and goals for the next year. The student and Research Advisor will both sign the evaluation, after which it will be delivered to the Academic Program Administrator staff.

If a student has more than one Research Advisor, both Advisors should participate in the evaluation process and must sign the evaluation form. For students with a primary advisor outside the Department of Electrical and Computer Engineering and a second advisor who is a full-time tenure-track Electrical and Computer Engineering professor, both professors must participate in the evaluation and sign the evaluation form. Incomplete evaluation forms will be returned to the student for completion.

The current ECE PhD Annual Review form and the JHU Policy on Mentoring Commitments for PhD Students & Faculty Advisors is at: <https://engineering.jhu.edu/ece/academics/phd-program/>

## 4.5 Advisors

In most cases, a graduate student's academic advisor will be a full-time tenure track faculty member in the Department of Electrical and Computer Engineering.

Prior to the Qualifying Exam, the student has an Academic Advisor. An academic advisor is best defined as a departmentally approved faculty member or staff member under whose guidance a student is taking courses to complete a degree. All students must have an advisor. Upon passing the Qualifying Examination, the student must immediately identify a Research Advisor who is willing and able to supervise and support their doctoral research. The Research Advisor sets requirements for the remainder of the program, which may include a teaching obligation, specific coursework, a reading program, or a preliminary research project.

Occasionally, a student may partake in specialized research where he or she will work with a professor in another department. Please reach out to the Academic Program Administrator for assistance.

Either the student or the Academic/Research Advisor can discontinue the relationship for any reason. In the event of the discontinuation of a Student-Research Advisor relationship, a new Research Advisor must be selected within two months. If a student is without a Research Advisor, they are typically placed on probation.

If you have a concern about your advisor – whether you have concerns about advising quality, if you believe you and your advisor are not a good match, or if there is an unresolvable conflict – please contact the following people in this order:

1. Prof. Mark Foster, Director of Graduate Studies
2. Ashley Moriarty, Senior Academic Program Coordinator
3. Christine Kavanagh, Associate Vice Dean of Graduate Affairs and Lifelong Learning in the Whiting School of Engineering – [christinekavanagh@jhu.edu](mailto:christinekavanagh@jhu.edu)

The Director of Graduate Studies will first try to help you resolve your concern. If he is unable to resolve it, the Senior Academic Program Coordinator will assist, as will the Associate Vice Dean if we cannot resolve your concern within the department.

## 4.6 Internships

Students are encouraged to pursue full-time internship opportunities during the summer months (roughly May 25 – August 25). International students must apply for and be approved for full-time CPT (<https://ois.jhu.edu/students/current-f-1-students/f-1-training-and-employment/curricular-practical-training/>) if their internship is in the United States.

During an academic semester, students may do a part-time internship (working up to 19.99 hours per week; international students must apply for part-time CPT

<https://ois.jhu.edu/students/current-f-1-students/f-1-training-and-employment/curricular-practical-training/>) but should seek the approval of their Research Advisor before doing so.

Should a student, with the approval of their Research Advisor, pursue a full-time internship during an academic semester, they MUST apply for a change in student status from full-time residential to non-resident status. Final approval of this status change must come from the Dean. International students will need OIS approval for full-time CPT, which will only be approved if the internship directly correlates with their dissertation. More information about Non-Resident status <https://homewoodgrad.jhu.edu/graduate-board/new-grad-board-residency-page/>

During non-resident status, students are responsible for non-resident tuition (10% of full tuition) and health insurance costs unless their Research Advisor elects and is able to cover them.

Students will need to clarify if the internship will be informing their degree/involve sponsored/mutual research to their work in their PhD program, as there are dependent funding models and certified effort considerations. Students must notify the Academic Program Administrator a minimum of 3 weeks before their internship start date to adjust payroll and prevent overpayment. They must also notify the Academic Program Administrator of their internship end date as soon as it is known to prompt a return to payroll.

## 4.7 Payroll and Taxes

All PhD students in a fulltime, resident status are fully supported (tuition, salary/stipend, and individual health, dental, and vision insurance premiums) for the duration of their PhD program while they remain in a fulltime, resident status. No PhD student can be self-funded and typically the WSE Dean's office will not support salary/stipends or insurance premiums.

Paychecks are distributed semi-monthly, on the 15th and the last day of the month. If payday falls on a weekend or holiday, paychecks are distributed the last regular working day preceding the payday. For your convenience, Direct Deposit to your bank account is available; log in to my.jh.edu and select HR, then login to ESS, click Payroll Information and then Direct Deposit. Follow the instructions to set up your Direct Deposit.



International students may contact the Office of International Services at [ois@jhu.edu](mailto:ois@jhu.edu) or 667-208-7001 for any funding/employment questions that are related to their visa status, and all students can contact the Tax Office at [http://finance.jhu.edu/depts/tax/fellgrad\\_adm.html](http://finance.jhu.edu/depts/tax/fellgrad_adm.html), 443-997-8688, or [tax@jhu.edu](mailto:tax@jhu.edu) with any taxation questions.

## 5. Policies – General Information

The Whiting School of Engineering and Johns Hopkins University set and administer a variety of policies that affect students. The following websites provide information on these policies; but are not all-inclusive. Your academic staff can help with policy questions and interpretations.

- General Graduate Student Policies - <https://homewoodgrad.jhu.edu/academics/policies/>
- WSE Graduate Academic Policies and Procedures - <https://engineering.jhu.edu/education/graduate-studies/graduate-academic-policies-procedures/>
- WSE and KSAS Graduate Credit Hours - <https://homewoodgrad.jhu.edu/academics/wse-graduate-credit-hours/>
- Non-Resident Status - <https://homewoodgrad.jhu.edu/graduate-board/new-grad-board-residency-page/>
- Leave of Absence - <https://homewoodgrad.jhu.edu/graduate-board/new-grad-board-residency-page/>
- Course Catalog - <http://e-catalog.jhu.edu/>
- Graduation Deadlines – <https://homewoodgrad.jhu.edu/graduate-board/deadlines/>
- Policy on Mentoring Commitments for PhD Students and Faculty Advisors - <https://provost.jhu.edu/education/graduate-and-professional-education-resources/phd-mentoring-policies-and-resources/>

### 5.1 Notice of Nondiscrimination Policy

The Johns Hopkins University admits students of any race, color, gender, religion, national or ethnic origin, age, disability, or veteran status to all the rights, privileges, programs, benefits, and activities generally accorded or made available to students at the University. It does not discriminate on the basis of race, color, gender, religion, sexual orientation, national or ethnic origin, age, disability, or veteran status in any program or activity, including the administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other University-administered programs. Accordingly, the university does not take into consideration personal factors that are irrelevant to the program involved.

Questions regarding access to programs following Title VI, Title IX and Section 504 should be referred to the Office of Institutional Equity for the University, responsible for the coordination of equal opportunity programs, Wyman Park Building, Suite 515, (410) 516-8075, [ois@jhu.edu](mailto:ois@jhu.edu).

<https://e-catalogue.jhu.edu/university-wide-policies-information/rights-privileges-responsibilities/discrimination-harassment-policy-procedures/>



## 6. JHU Resources

### Center for Leadership Education

The Center for Leadership Education provides many classes in engineering management, English as a second language, and professional communication. While these courses will not count towards the Ph.D. Degree, they can be useful. Please note: these classes will end up on your transcript, so the grades are important.

More information can be found here:

<https://engineering.jhu.edu/cle/academics/undergraduate-studies/professional-communication-program/>

### Financial Aid

The Office of Student Financial Services has other financial aid sources available, including research assistantships and some fellowships. Any enrolled or accepted graduate student who is a U.S. citizen, U.S. permanent resident, or eligible non-citizen may apply for federal and state financial aid. Sources of aid, eligibility requirements, applications, and other information are available at <http://www.jhu.edu/finaid/grads.html>

### Graduate Student Organizations

Johns Hopkins has many student organizations. A list of some that are specifically geared to graduate students can be found here: <https://engineering.jhu.edu/studentaffairs/student-experience/student-groups-and-organizations/>

In addition, the Graduate Representative Organization (GRO) can be found here:

<http://studentaffairs.jhu.edu/gro/>. The GRO maintains a list of student groups, which can be found here: <http://studentaffairs.jhu.edu/gro/clubs-groups/list-of-groups/>

### Information Technology and Computer Facilities

The Information Technology Department at Johns Hopkins, whose web site is located at <http://it.jhu.edu> is the online resource for all IT-related information. Their primary focus is to support the missions of the Johns Hopkins Institutions and provide technology solutions for faculty, staff, patients, and students in support of teaching, research, and patient care.

Their website serves as a repository for all IT-related information at Johns Hopkins. You will find a lot of useful information within this site, including an overview of the IT Organization, its projects and services, support for applications and general questions, and news about emerging technologies and strategic imperatives.

The Krieger Computing Lab is located in Krieger Hall. No account is required, just a student ID, for use of the 130 workstations which have basic office and imaging applications.

<https://studentaffairs.jhu.edu/computing/campus-resources/>

## **International Office**

The International Office can be emailed at [ois@jhu.edu](mailto:ois@jhu.edu) and their website is <https://ois.jhu.edu/>. Please reach out to them with any visa related questions, including questions about Curricular Practical Training (CPT) and Optional Practical Training (OPT).

## **Library**

The JHU Libraries are extensive, both on-ground and online. The Sheridan Libraries, on the Homewood campus, include quiet rooms, group study rooms, and a café. Library resources can be found at <https://www.library.jhu.edu/support/> or contact Sue Vazakas, the Librarian and Academic Liaison for the Electrical and Computer Engineering Department. She can be contacted by email at [svazakas@jhu.edu](mailto:svazakas@jhu.edu) or phone at 410-516-4153.

The library also purchases books and journals based on departmental requests. Student requests for books or journals should also be communicated to Sue Vazakas.

## **Security**

While the Hopkins Security Department provides ample and appropriate security to the campus, they remind us that we must play our part. Please exercise common sense when entering and leaving your office, classrooms, and labs.

- Secure your computers, especially laptops!
- Back up your work onto separate disks or systems in case something happens to the computer via virus, equipment problems, or theft. The University provides free anti-virus software that can be downloaded from the website at <https://it.johnshopkins.edu/services/network/resnet/antivirus>
- Secure your laptop cases or any bag that might be mistaken for a computer bag.
- Lock your car and don't leave any items inside your car in plain sight. Secure them in your trunk or bring them with you.
- Secure your personal items such as your purse, wallet, books, equipment, and your coat or jacket.
- If you see someone suspicious in your lab or office, don't confront the individual; contact Security at 410-516-7777 right away. Your personal safety is most important.
- If you are uncomfortable walking through campus or to your car at night or otherwise are concerned for your safety, the Security department provides escort services to selected locations. Call 410-516-8700 to arrange for an escort.

## **Student Disability Services**

The Office of Student Disability Services (SDS) assists full-time undergraduate and graduate students in the Krieger School of Arts and Sciences and the Whiting School of Engineering with disability concerns, in compliance with the provisions of the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. SDS assists the University

community in understanding the effects of disabilities and in eliminating the physical, technical, attitudinal and programmatic barriers that limit the range of opportunities for students with disabilities, as well as provides individuals with reasonable accommodations. The SDS maintains and protects the confidentiality of individual records as required by law. For additional information and to access the services of the SDS office, please visit

<https://studentaffairs.jhu.edu/disabilities/> contact them at 410-516-4720 or [studentdisabilityservices@jhu.edu](mailto:studentdisabilityservices@jhu.edu), or visit their office in Shaffer Hall, Suite 101.

## **Student Employment**

The Student Employment Services office offers opportunities for employment for many positions on the campus. They will help you determine your work eligibility. Should you wish to obtain additional employment, please speak with your advisor so you will be able to fulfill the obligations of your education. The Student Employment Services website is located at <https://sfs.jhu.edu/types-of-aid/student-employment/>

## **Student Health and Wellness Center**

Students who feel sick or have questions about their health can visit the Student Health and Wellness Center. You may make an appointment and get more information about their services and location here: <https://studentaffairs.jhu.edu/student-health/>

If you are struggling with anxiety, stress, depression, or other mental health–related concerns, please consider visiting the JHU Counseling Center. If you are concerned about a friend, please encourage that person to seek out counseling. The Counseling Center is located at 3003 North Charles Street in Suite S-200 and can be reached at 410-516-8278 and online at <https://studentaffairs.jhu.edu/counselingcenter>.

Other support services offered to JHU students to support the 8 facets of well-being (emotional and mental, physical, social, sexual, spiritual, financial, environmental, and professional) can be found here: <https://wellbeing.jhu.edu/>

## **WSE Office of Student Support and Advocacy**

<https://engineering.jhu.edu/studentaffairs/navigatingnonacademicissues/>

The Office of Engineering Student Support & Advocacy (ESSA) helps students navigate non-academic issues including mental or physical health, interpersonal issues, conflict with advisors, financial concerns, time management, leaves of absence, being victimized, and family emergencies.

Engineering Student Support & Advocacy (ESSA) is a group of Case Managers who provide outreach and support for students with significant and complex concerns that affect their academic and personal success.

ESSA works with students navigating non-academic issues to:

- highlight their personal strengths/self-advocacy skills,
- increase their access to resources, and to
- help them navigate challenges that might impede their goals of success.

Case Managers work with students who may need to take a Leave of Absence for physical health, psychological reasons, or other personal emergencies.

## **WSE Student Affairs**

WSE Student Affairs serves Whiting School of Engineering graduate students, learners, and postdoctoral fellows. We offer resources for academic engagement, career planning, community life, and more. Reach out to WSE Student Affairs for continuous support during your time at Hopkins! Find more information here: <https://engineering.jhu.edu/studentaffairs/>

## **Writing Center**

The Johns Hopkins Writing Center offers individual meetings with experienced tutors, including experts in scientific and engineering writing styles. More information can be found here: <https://krieger.jhu.edu/writingcenter>

## **6.1 Additional Services and Resources**

The University offers a variety of services. These are among some others not listed above.

- Office of the Registrar - <https://studentaffairs.jhu.edu/registrar>
- Parking and Transportation Services - <https://jhfre.jhu.edu/ts/parking/>
- Student Financial Services - <https://sfs.jhu.edu/>
- Student Accounts - <http://www.jhu.edu/studacct>
- Office of Institutional Equity - <http://oie.jhu.edu>
- Ralph O'Connor Recreation Center - <http://web.jhu.edu/recreation/>
- Community Living (Housing) - <https://studentaffairs.jhu.edu/community-living/>
- JHU Career Center - <https://studentaffairs.jhu.edu/life-design>
- Center for Social Concern – <https://studentaffairs.jhu.edu/socialconcern/> (service opportunities and advocate for social change)
- Campus Ministries – <https://studentaffairs.jhu.edu/campus-ministries> (for all faiths and those seeking spiritual growth)
- Counseling Center – <https://studentaffairs.jhu.edu/counselingcenter> (whenever we need a little extra help from our friends)
- The Hub – <http://hub.jhu.edu/> (the University's official news publication)
- Johns Hopkins Magazine- <https://hub.jhu.edu/magazine/>
- Graduate Representative Organization (GRO) - <https://studentaffairs.jhu.edu/gro/>
- Digital Media Center - <https://studentaffairs.jhu.edu/dmc/>

## 6.2 JHU and Baltimore Extracurricular Activities

Many groups and organizations throughout the University provide ample opportunities for social times and fun. Check out these websites for information:

- Campus Life - <https://www.jhu.edu/life>
- Arts and Culture - <https://www.jhu.edu/life/arts-culture>
- Recreation Center – <https://studentaffairs.jhu.edu/recreation/> (grad students have free membership)
- Hopkins Athletics - <https://hopkinssports.com/>
- Baltimore Collegetown - <https://baltimorecollegetown.org/>
- Baltimore Area Convention and Visitors Association - <http://baltimore.org>
- Baltimore Office of Promotion and the Arts - <http://promotionandarts.org>

### **A.1 Tenured and Tenure Track Faculty**

Andreas G. Andreou, Professor  
Muyinatu Bell, Johns C. Malone Associate Professor  
Rama Chellappa, Bloomberg Distinguished Professor  
Najim Dehak, Associate Professor  
Yury Dvorkin, Associate Professor  
Mounya Elhilali, Charles Renn Faculty Scholar and Professor  
Ralph R. Etienne-Cummings, Julian S. Smith Professor  
Deliang Fan, Associate Professor  
Mahyar Fazlyab, Assistant Professor  
Amy C. Foster, Associate Professor  
Mark A. Foster, Associate Professor and Associate Head of Graduate Education  
Sijia Geng, Assistant Professor  
John I. Goutsias, Professor  
Pablo A. Iglesias, Department Head and Edward J. Schaefer Professor  
Pedro Irazoqui, Professor  
Jin U. Kang, Jacob Suter Jammer Professor  
Sanjeev P. Khudanpur, Associate Professor  
Jacob B. Khurgin, Professor  
Enrique Mallada, Associate Professor  
Tinoosh Mohsenin, Associate Professor  
Vishal Patel, Associate Professor  
Jerry L. Prince, William B. Kouwenhoven Professor  
T. E. Schlesinger, Benjamin T. Rome Dean and Professor  
Susanna Thon, Associate Professor and Associate Head of Undergraduate Education  
Trac D. Tran, Professor  
Howard L. Weinert, Professor  
James West, Professor

Note that all tenure-track faculty members are eligible to supervise doctoral dissertations in the ECE doctoral program.

### **A.2 Research Faculty and Joint/Secondary Appointments**

Noah I. Cowan, Associate Professor, Mechanical Engineering  
Atul Deshpande, Assistant Professor, JHU SOM Oncology  
Nicholas Durr, Assistant Professor, Biomedical Engineering  
Eric C. Frey, Professor, JHU SOM Radiology  
Dennice F. Gayme, Associate Professor, Mechanical Engineering  
Gregory D. Hager, Mandell Bellmore Professor, Computer Science  
Xingde Li, Associate Professor, Biomedical Engineering  
Nicolas Loizou, Assistant Professor, Applied Mathematics and Statistics

Ernst Niebur, Professor, Neuroscience  
Laureano Moro-Velazquez, Assistant Research Professor  
Arvind Pathak, Associate Professor, JHU SOM Radiology  
Philippe Pouliquen, Assistant Research Professor and Lecturer  
George Sgouros, Professor, Radiology and Radiological Sciences  
Webster Stayman, Assistant Professor, Biomedical Engineering  
Nitish V. Thakor, Professor, Biomedical Engineering  
Jesús Villalba, Assistant Research Professor  
Joshua Vogelstein, Associate Professor, Biomedical Engineering

### **A.3 Teaching Faculty**

Lucas Buccafusca, Lecturer  
Sathappan Ramesh, Lecturer

### **A.4 Department Staff**

Nicole Aaron, Administrator  
Ashley Moriarty, Senior Academic Program Coordinator (PhD)  
Malik Johnson, Senior Academic Program Coordinator (BS & MSE)  
Jennifer Miller, Administrative Coordinator  
Shawdoe McKinney, Budget Analyst  
Tom Judy, Senior Grants & Contracts Specialist  
Cora Mayenschein, Research Services Analyst  
Laura Granite, Administrative Coordinator