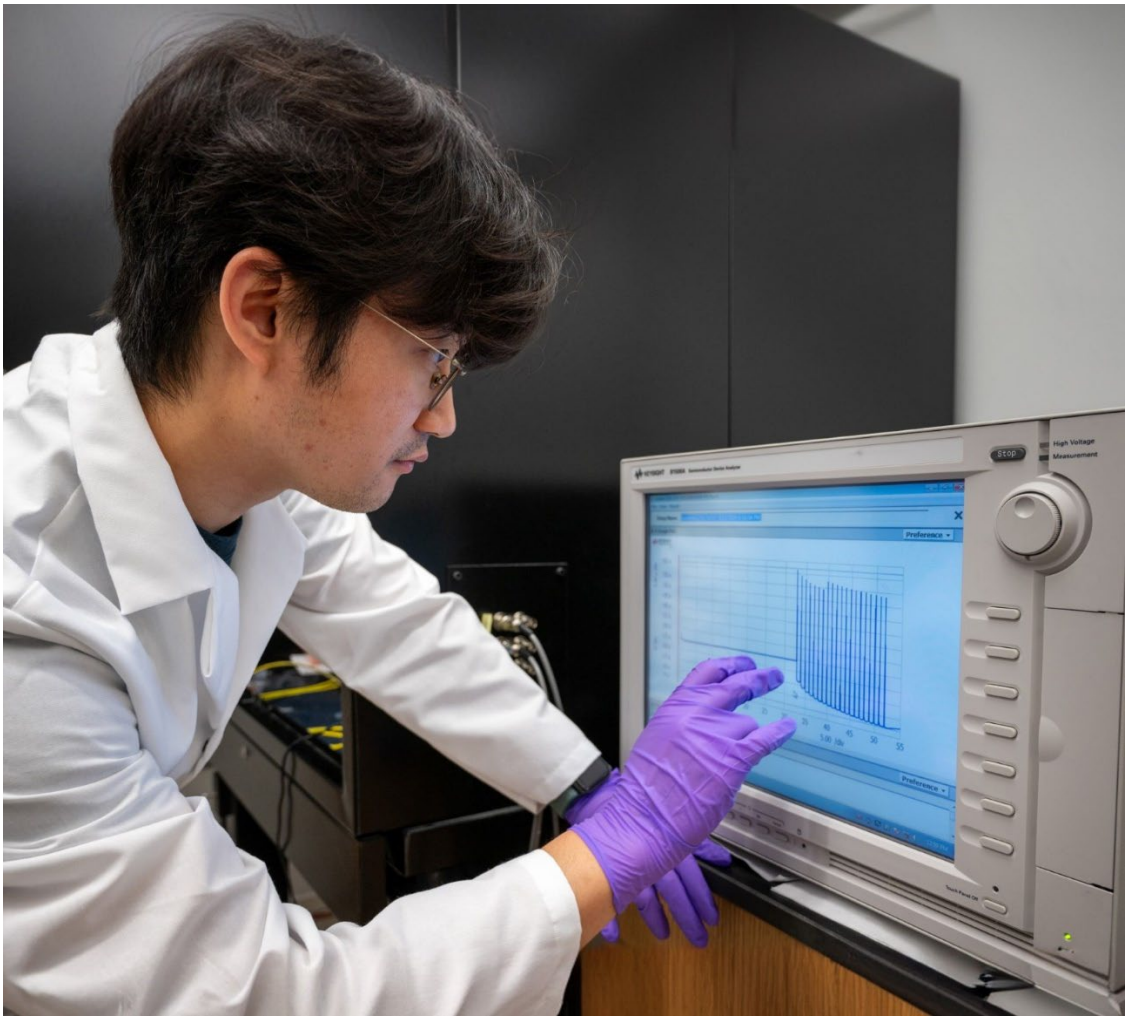
The Preston M. Green Department of Electrical & Systems Engineering

Doctoral Student Handbook

2025-2026



WashU McKelvey Engineering

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1. Welcome and Program Overview

1.1 Chair Welcome:

Greetings! Our doctoral students are critical to our success as a department. We look forward to helping facilitate your progress through our program. You are welcome to contact us at any time if you have concerns or questions.

Sincerely,

Dr. Bruno Sinopoli, Department Chair

1.2 Department Mission and Philosophy

The Preston M. Green Department of Electrical & Systems Engineering has a unique and long tradition of excellence in advancing basic science and solving engineering problems relevant to society. We are dedicated to providing high-quality education and research, and our faculty lead national and international research teams and collaborate on interdisciplinary research projects at Washington University in St. Louis. The Department strives to enhance education by providing a modern curriculum, renovated laboratories and hands-on research projects.

1.3 Degrees/ Certificates Offered by ESE

PhD Electrical Engineering

PhD Systems Science & Mathematics

MS Electrical Engineering

MS Systems Science & Mathematics

MS Engineering Data Analytics and Statistics

Graduate Certificate in Financial Engineering

Graduate Certificate in Imaging Science & Engineering

Graduate Certificate in Control Engineering

Graduate Certificate in Quantum Engineering

1.4 Program Contacts and Leadership

Role	Name	Email	When to Contact
Director of Graduate Studies	Chuan Wang	chuanwang@wustl.edu	Academic policies, exceptions
Graduate Program Advisor	Stacia Burd	staciaburd@wustl.edu	Course registration, forms, course planning, rotations
Department Chair	Bruno Sinopoli	bsinopoli@wustl.edu	Broad concerns or unresolved issues
Ombuds		Ombuds Team	Confidential reporting, inclusion-related concerns
McKelvey Graduate Student Services		gradservices@wustl.edu	University-wide support

2. Program Milestones

Each student's graduate career is marked by a series of milestones achieved on the way to a doctorate. At each milestone, students demonstrate certain skills and abilities critical to success in ESE research. The ESE faculty defined these milestones both as intermediate targets at which to aim and tools to assess your progress toward the doctorate.

Times are given in years relative to the beginning of the first semester as a graduate student at Washington University. While the guidelines are flexible, the time limits should be taken seriously. The following sections describe the procedures of each milestone in more detail.

2.1 First-Year Milestones

Year 1

- Attend departmental seminars every semester. Students must be registered for ESE 5980. (Reference 3.6)
- Complete research rotation. Students must be registered for ESE 8998-01. (Reference 4.4)

- Complete research rotation report. (Reference 4.5)
- Qualifying Exam. (Reference 4.1)
- Complete Lab Affiliation form. (Reference 4.4)
- ESE communication assessment. (Reference 7.1)
- Complete McKelvey MTE Trainings. (Reference 7.1)
- Responsible Conduct of Research Course. (Reference 7.2)
- Complete Annual Report (Reference 7.9)

2.2 Program Milestones

Year 2

- Apply for research fellowships if desired and/or applicable on January 2nd. You should consider NSF GRFP, NIH training grant, ACM SIGHPC, many more.
- Complete 2 semesters of MTEs. Students must be registered for EGS 8010. (Reference 7.1)
- Preliminary review. (Reference 7.3)
- Complete Annual Report (Reference 7.9)

Year 3

- Assemble research advisory committee and submit Research Advisory Committee Approval form. (Reference 7.4)
- Complete written dissertation proposal and presentation for committee. (Reference 7.5)
- Complete Title, Scope and Procedure Form immediately following dissertation proposal (Reference 7.7)
- Start tracking four mandatory research presentations. (Reference 7.8)
- Complete Annual Report (Reference 7.9)

Year 4

- Annual review(s) (Reference 7.9)
- Dissertation defense committee & dissertation defense. (Reference 7.10)
- Complete Annual Report (Reference 7.9)

Milestone	Typical Timing	Forms
Lab Affiliation	By the end of first semester	PhD Lab Affiliation
Qualifying Exam	Spring semester of first year	PhD QE Form
Preliminary Research Review	Summer after second year	

Research Advisory Committee Approval	Prior to Dissertation Proposal	PhD Research Advisory Committee Approval
Dissertation Proposal	Prior to 7th semester	PhD Proposal / Title, Scope & Procedure Form
Dissertation Defense Committee Approval	Prior to Dissertation Defense	PhD Dissertation Defense Committee Approval
Dissertation Defense	Prior to end of 6th year	PhD Dissertation Defense Approval Form
Dissertation Submission	After Dissertation Defense	Dissertation Submission

3. Degree Requirements and Course Planning

3.1 Registration

All Doctoral students are matriculated in the McKelvey School of Engineering [A]. Registration takes place each semester on dates announced by the University. Detailed instructions for registration plus necessary materials are emailed directly to all graduate students enrolled during the previous semester.

All graduate students pursuing a degree in the department must register each semester until all degree requirements are completed. Historically, most PhD programs have been completed within five or six years. Students register in courses and/or research units until they have earned the total number of credits required for their degree. Doctoral students typically register for nine credits of courses and/or research each semester until 72 credits are completed; students may choose to spread out research. After earning the required number of credits and fulfilling the course degree requirements, the student requests registration from their advisor or the Graduate Program Coordinator for one of the following:

EGS 9000 Full-time Graduate Research/Study - Full-time Graduate Research/Study indicates the student's full-time engagement in research or academic writing until graduation. Students register for EGS 9000 based on recommendations from their advisors that the students are making satisfactory progress toward their degrees.

EGS 9001 Full-time Graduate Study in Absentia - During a student's period of regular enrollment, they may have a need or opportunity to study away from Washington University. The McKelvey School of Engineering on a case-by-case basis in absentia will consider recommendations from departments for students' registration. Students must complete the In Absentia form. If approved by the McKelvey School of Engineering, these

students will be registered for EGS 9001 Full-time Graduate Study in Absentia. Students may be allowed to register for EGS 9001 for up to four consecutive or non-consecutive fall/spring semesters. Semesters in which a student is registered in absentia are counted as part of the student's program length.

Full-time Doctoral students registered within the program and making satisfactory academic progress are eligible to receive a stipend, tuition remission, and the health insurance and wellness fee subsidies. Tuition each semester will be calculated based on the number of registered course units.

3.2 Categories of Registration

Active Status or Continuing Student Status: A graduate student is viewed as having an active full-time status if enrolled in nine (9) or more units or a PhD student enrolled in either EGS 9000 or 9001. A student is enrolled under active part-time status if enrolled in at least one, but fewer than nine (9) units. Graduate students must be authorized by their advisor prior to registration.

Inactive Status: Students who have not completed their course requirements but who, because of personal reasons, must suspend their studies may request a leave of absence with the approval of their advisor, the Director of Graduate Studies and for Doctoral students the McKelvey School of Engineering. See the McKelvey School of Engineering website on leaves for further information.

Students who fail to register in one of the previously mentioned categories will automatically have their graduate standing revoked. See the McKelvey School of Engineering Bulletin for further information.

Please note: Graduate students who do not register in one of the above categories will have to apply for reinstatement if they wish to re-enroll at a future time. For reinstatement information, masters and doctoral students should contact McKelvey Graduate Student Services [B]. Students seeking reinstatement may be required to pay a reinstatement fee, take special reinstatement examinations, and repeat previous work if it fails to meet contemporary standards.

3.3 Course Information

The normal load for full-time graduate students is nine (9) units per semester. The course selection and load must be worked out with and approved by the student's advisor. Graduate students with research assistantship duties will typically enroll for course loads commensurate with the requirements of these duties. Students otherwise employed full- or part-time, on- or off-campus, will determine a satisfactory reduced course load with their advisors. International students on student visas are required to maintain full-time enrollment status.

Given that communication skills are important for all doctoral students, as well as required to complete the Mentored Teaching Experience, advisors may request that students' complete courses aimed at improving written and oral communication in English; such courses do not count toward the 72 units required for a doctoral degree.

3.4 Academic Requirements

Students need 72 credits to obtain a doctorate from the Electrical & Systems Engineering Department [C]. Credits come from three kinds of work: regular courses, seminars, and research credit. These 72 units must consist of at least 36 units of technical coursework approved by the academic advisor and at least 24 units of research and may include work done to satisfy the requirements of a master's degree in the McKelvey School of Engineering in a related discipline. The additional 12 units may come from any of the three kinds of credits listed above.

Students cannot get course credit for both ESE 4170 and CSE 4107.

3.5 Transfer Credit

A maximum of 24 units of graduate credit earned at institutions other than Washington University may be applied toward the Doctor of Philosophy degree and a maximum of 30 units for the Doctor of Science degree. Transfer credit must be recommended by the advisor, forwarded for approval by the ESE Graduate Committee, who then forward it for approval by the McKelvey School of Engineering.

No graduate courses carrying grades lower than B can be accepted for transfer toward any graduate degree, and no courses will be accepted toward degree requirements if the course exceeds the 10-year maximum period unless they have formal approval of the McKelvey Doctoral Committee. To transfer PhD courses, please fill out the application for PhD Transfer Credit Form [1]. It should be noted that courses transferred in for inclusion in a doctoral degree are not automatically approved. For inclusion in a master's degree, please consult the master's handbook for that procedure.

3.6 Seminars

Each year the department sponsors or participates in a series of seminars by visiting lecturers and WashU faculty and students. All full-time graduate students are required to enroll in ESE 5980 - Graduate Seminar, which is a course carrying zero (0) units. Please refer to the syllabus provided on Canvas for the most up-to-date requirements to obtain a satisfactory grade, but typically they are as follows:

- Masters students must attend at least 3 seminars per semester, except for first year Master's students who must attend.
- DSc and PhD students must attend at least 5 seminars per semester, except for first year PhD students who must attend 6.

- Part-time students are exempt except during their year of residency. Any student under continuing status is also exempt.

3.7 Expected Course Selection

- The PhD degree requires at least 36 units of courses, 24 units of research, and 72 units total.
- Most students will take two courses in the fall they enter graduate school, along with a three-unit rotation course (ESE 8998-01 – Research Rotation for ESE Doctoral Students). This rotation course counts toward the course requirements for the degree.
- After a student has a successful match, then the courses in subsequent semesters are selected in consultation with the research advisor.
- A grade is awarded to a student after the rotation report is submitted and accepted by the research advisor.

4. Qualifying and Matching Process

The process for matching students with prospective research mentors and the academic qualifying process are synergistic but follow separate paths. Passing the qualifying exam is not contingent on a successful matching, and vice versa. Students must successfully complete both processes to be qualified for formal advancement to candidacy and the research phase of the doctoral degree.

4.1 Goals of the Qualification Examination Process

The qualifying examination process is designed to assess students' preparedness to pursue doctoral research with research mentors in the department. Specifically, the goals are:

- To evaluate the student in the following areas:
    - Communication skills, including English proficiency.
    - Ability to engage in academic discourse professionally.
    - Technical proficiency in pertinent ESE areas, at a level of depth appropriate for first-year doctoral student.
- To provide constructive feedback to the student on areas of proficiency and improvement. The feedback will include recommended remedies, such as supplementary coursework, immersive experiences for improving English proficiency, and improvement of oral presentation skills.
- To provide feedback to the potential faculty mentor on the above areas.
- To ensure a high and uniform quality of doctoral students in our department.

4.2 Qualifying Exam Process

- The first round of qualifying exams is scheduled for February; the second round, if necessary, is scheduled over the following summer. The ESE Department will appoint a faculty member or committee to assign qualifying exam committees and to organize the exams on behalf of the department.
- Each student is assigned a qualifying exam committee of three tenured or tenure-track faculty members in the department, including affiliate faculty members. The most recent rotation advisor will not be a member of the Qualifying Exam Committee.
- The students will be asked to complete a form that includes advisors in rotations and topics in which the student has expertise related to the rotation topic. On that form, students may suggest up to five ESE faculty for this qualifying exam committee by early January (for summer exams, the students will be notified of the deadline). The ESE Department appoints the committee; the student should not contact faculty members in advance. The ESE Department may select other faculty members to serve.
- The qualifying exam consists of a private oral presentation approximately twenty minutes in length to the Qualifying Exam Committee, followed by questions from the committee.
- The presentation may cover rotation activities, in which case their report will be a research rotation report, or it may be on a separate area in ESE. If a separate area in ESE is chosen, then at least two or three academic papers are selected as the basis for the report and presentation, which will be a critical review.
- Typically, the report is at least a four-page self-written paper. This report or paper will be submitted to the ESE Graduate Program Coordinator two weeks prior to the actual exam.
- Following examination, each member of the committee will assign a score based on a uniform rubric agreed to by the department, covering areas described in Section 4.1 above. In each of the three areas (communication skills, engagement in academic discourse, and technical proficiency), the committee will score the performance as:
    - Excellent
    - Very Good
    - Good
    - Fair
    - Poor
- The committee will discuss the outcome at the end of the exam. The outcome will be sent to the ESE faculty as a recommendation, with final outcome determined at a faculty meeting. Possible outcomes of the exam are:
    - Pass, marginal pass, marginal fail, and fail.

    - The committee will provide constructive feedback to the student on areas of proficiency and improvement.
    - The student may consult with the departmental representative(s) regarding any concerns they have about the examination process.
- If performance is deemed unsatisfactory, the student may have a second attempt at the qualifying exam. The procedure for the second attempt mirrors that of the first attempt, with the following additions:
    - The second attempt must be completed at least a week before the August meeting of the faculty in the department.
    - If the second attempt is unsuccessful, the student is deemed to have failed the qualifying exam.
- Upon successful completion of the Qualifying Exams students complete the PhD Qualifying Exam Form [2].

4.3 Goals of the Matching Process

Matching students with research mentors requires balancing several factors. There are factors that are specific for students, factors specific for faculty, and factors that impact both. Students need to have research projects of interest, working with faculty with whom they are compatible, and with sufficient funding to support the students for the duration of their programs. Faculty need to have a sufficient number of students working on their projects to achieve their goals, and they need to maintain and nurture productive working environments sufficient to achieve those goals.

The department seeks to ensure that each student has an opportunity to perform rotation activities (i.e., engage in research activities in a significant and meaningful way) with at least one faculty member with whom they share research interests. The goal is for all PhD students entering in a fall semester to be matched with such faculty by January 1, 2026. For a part-time PhD student, the timing of the match is relaxed and treated individually for each student depending on the projected timeline.

4.4 Timeline for Rotation and Qualifying Process

- Students will begin their first rotation on August 25 and are expected to finalize a match with their first rotation advisor by Friday, October 10. If the first rotation is a definite match, the student and advisor will sign the lab affiliation form by October 10 and advisor will start supporting the student from January 1. Alternatively, the advisor may choose to retroactively support the student from the start of the Fall semester and get rebate from the department.
- If the student is not matched after the first rotation, the student will start the second rotation as early as Monday October 13 and no later than Monday, October 20. The match decision should be made by Friday, December 19.

- In cases where multiple faculty members have expressed interest in the same student during the admission process, the student may choose to complete two rotations before making a final decision about the lab affiliation by December 19. Before starting the second rotation, the student must discuss with the first rotation advisor about the second rotation and potential implications for match.
- If a student does not secure a match by the end of the fall semester, they will be placed on academic probation for 90 days during which they may pursue a third rotation in the spring. If a match is still not secured by the end of this period, the student will be dismissed from the PhD program at the conclusion of the spring semester.
- The rotation mentor and research advisor must be a tenured or tenure-track faculty member in the department, or a member of the ESE affiliate faculty.
- During the rotation, the student works closely with the mentor on tasks and research projects assigned by the mentor.
- At the end of the rotation, students will need to complete a research rotation report in consultation with the research advisor at the end of the fall semester. For further details please refer to section 4.5.
- The student should summarize the work completed during each rotation (if two rotations were undertaken).
- At the beginning of a rotation, a doctoral students will complete the Electrical & Systems Engineering Lab Rotation Form [3]. This form will be used to determine what research rotation students are currently doing, as well as making the department aware of the rotation. At the end of the rotation, the student and their advisor will need to discuss whether there is a match, and the student will be continuing their studies in the lab or not. If there is a match, then the student will fill out the Lab Affiliation Form [4]. If there is no match, the student will need to complete another rotation, with the associated forms.

4.5 Research Rotation Reports

By the last day of classes of the rotation semester, the student will write and submit a rotation report via Canvas for approval. The report should be written in the form of a standard research article, and it must include the following: a) student's name; b) title of report; c) semester/year of the rotation; d) rotation mentor's name; e) date of report; and f) proper citation of prior work. This document should be double-spaced. Most written reports are anticipated to be at least 4 pages and up to 10 pages in length. The length may vary, but the quality should not. If the project has not been completed, preliminary or partial results are to be described. A typical report contains:

- Abstract
- Literature review
- Objectives of rotation

- Methods used
- Results of rotation (with appropriate figures, tables, or other data analysis)
- Conclusions
- Recommended next steps

4.6 Advancing into Candidacy

If a student has a successful match and passes the qualifying exam, then the faculty of the department vote on advancing the student to candidacy at a regularly scheduled meeting. Research mentors of students considered for candidacy will be invited to the faculty meeting.

Students who fail to match or fail the qualifying exam will be discussed by the faculty at a meeting no later than the August following the first year of study; the faculty will vote whether to advance each student to candidacy. Research mentors of students considered for candidacy will be invited to the faculty meeting.

5. Advising

5.1 Temporary Academic Advisor

Advising of incoming doctoral students is handled by the Doctoral Admissions Committee, which assigns an advisor for the selection of courses for the first semester. First rotations are often the faculty listed on students' acceptance letter.

5.2 Research Advisor

Each doctoral student is required to successfully advance to candidacy as discussed later in this document. At the successful conclusion of that process, a student has a research advisor who typically will serve as their academic advisor as well.

5.3 Changing Advisors

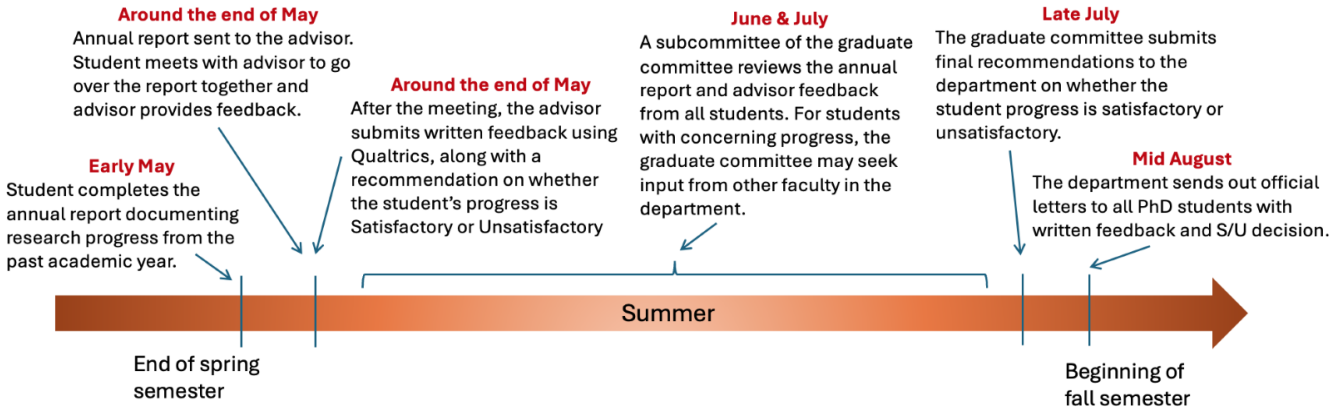
The advising relationship is established and continued only by the mutual consent of student and faculty member. If the advising relationship breaks down, then the department will work with the student and the advisor on a resolution.

6. Annual Report

- The annual report will be due by the last day of each spring semester. Students will be required to complete their annual report online using this Qualtrics [D].
- After the annual report is submitted, the student is required to schedule an individual meeting with his/her research advisor to go over the annual report

together. The advisor is expected to provide concrete feedback to the student on areas that are going well, need further improvement, or are concerning.

- After the meeting, the advisor will draft written feedback using Qualtrics and make a recommendation on whether the student's progress is Satisfactory or Unsatisfactory.
- At the end of the review process, the department sends out an official letter to the student before the beginning of the fall semester. The letter will contain the written feedback provided by the faculty advisor, and a statement about whether the student's progress is satisfactory or unsatisfactory.
- Students whose progress are deemed unsatisfactory in one year may be placed on academic probation. The graduate committee may recommend academic probation in consultation with the student's advisor. Students whose progress are deemed unsatisfactory in two consecutive years will be immediately placed on probation.
- During the annual milestone meetings (preliminary review, dissertation proposal, annual review), the student's annual report from the previous academic year will be provided to and reviewed by all members of the student's dissertation committee during the meeting.



7. Teaching and Research Expectations

7.1 Mentored Teaching Experience

There are three parts to complete the required Mentored Teaching Experience (MTE) in the department, which includes successful completion of McKelvey's MTE Training, the ESE Communication Proficiency Exam, and serving as an Assistant in Instruction (AI) for two semesters.

Prior to the second year, doctoral students must complete the McKelvey MTE training on Canvas and ESE Communication Proficiency Exam. This exam is designed to assess students' readiness to complete an MTE successfully. Students who need additional training

are required to sign up for the course E60 Presentation Skills for Scientists and Engineers, in the fall of the second year.

After successfully completing the qualifying process, but before the dissertation defense, doctoral students must serve as Assistant in Instruction (AI) in ESE or otherwise approved courses, documented by registering for EGS 8010-26. Please contact the Graduate Program Advisor if you need help identifying courses for the MTE.

Working closely with the instructor in a course, students may fulfill the MTE requirement in many ways including:

- Giving lectures in undergraduate classes
- Conducting recitation sessions in undergraduate classes
- Giving lectures in laboratory courses that introduce or interpret the experiments
- Conducting help sessions in which the graduate student explains the background and methodology of engineering approaches (involving a lesson plan)
- Holding office hours
- Grading assignments or exams

Students must document this experience by enrolling in EGS 8010 two (2) times.

7.2 Responsible Conduct of Research Course

All doctoral students must complete the Responsible Conduct of Research Course [E]. Details on the requirement will be communicated to each student. Any student seeking to fulfill this requirement in a different way must obtain approval in advance from the co-directors of the program.

In addition, all students in the program are strongly encouraged to engage in workshops, seminars, and training opportunities related to diversity, equity, and inclusion. Washington University offers many such opportunities, including those offered through the offices of Diversity, Equity and Inclusion, [F] and in the School of Medicine [G].

7.3 Preliminary Research Review

There is a preliminary research review after year two, which should be completed by June 30 for students entering in a fall semester. The research advisor selects three ESE faculty members to participate as a committee. The student presents research progress to date; the anticipated length of this presentation is around 20 minutes. Note that this is not a proposal, but a progress report. After the presentation, the student answers questions and engages in academic discourse.

After the preliminary research review, the committee provides feedback to the student, the advisor, and the ESE graduate committee on:

- Oral and written (as reflected in presentation slides) communication skills;

- Ability to engage in academic discourse (understand and answer questions);
- Research progress and ability to engage within the research project structure;

7.4 Research Advisory Committee Approval

Each Doctoral student has a Research Advisory Committee approved by the Director of Graduate Studies that is chaired by the dissertation research mentor; this committee is typically proposed jointly by the student and the mentor, and the approval is documented by the completion of the Research Advisory Committee Approval Form [5] prior to the proposal.

The dissertation subject must be approved by the Research Advisory Committee. This approval is obtained by successfully passing the dissertation proposal. The Research Advisory Committee and Dissertation Defense Committee must follow all guidelines of the McKelvey School of Engineering and consists of five members (the dissertation research mentor plus four other members) with the following requirements:

- Three (3) ESE primary faculty - or affiliated faculty (at least one must be a primary ESE faculty member).
- One (1) faculty member (or scholar in private sector or government) without primary or affiliate appointment in the ESE department.
- Four (4) of the five (5) members must be tenured or tenured-track faculty at Washington University.

7.5 Dissertation Proposal

The dissertation proposal should be completed by the end of the third year. The proposal and presentation will include a thorough survey of the field, a discussion of those areas in need of further research and a tentative but clear definition of the problem on which the student intends to focus the dissertation.

The student must present a written proposal to the committee at least two weeks in advance of the exam. The proposal should outline work accomplished to date, research planned for the dissertation, along with anticipated publications, and should give an approximate timeline. There is no specific format required for the written proposal in general, although an individual research advisor may require a student to use a specific format such as being consistent with an NSF or NIH proposal. Other research advisors may accept published or submitted papers as describing research accomplished to date, with additional material describing future plans, anticipated publication, and a timeline. The advisor must approve the written proposal prior to sending it to the committee.

It is important that the student and the committee recognize that the dissertation proposal is exactly that, namely a proposal. While it includes research and work accomplished to date, the intention is to provide an opportunity to discuss future work and get feedback

from the committee. Committee engagement with the student from the proposal through the defense is intended to be positive and constructive, paving a pathway for success.

The format of the exam is as follows: The student should present the proposed research for approximately 30 minutes. Following the presentation, the committee examines the student on understanding of the foundation of the particular field of research and evaluates the scope and merit of the proposed research. With the student in a waiting room, the Research Advisory Committee votes on the outcome of the exam, following which the committee meets with the student and the advisor. After the successful proposal, the student completes the Proposal / Title, Scope & Procedure Form [6].

7.6 Timely Proposal Completion

A PhD student who has not completed their dissertation proposal by the end of their seventh semester in the PhD program is eligible to be placed on probation for one semester. The condition for coming off probation is that the student completes the proposal by the end of that following semester.

This policy will be implemented as follows. Near the beginning of the seventh semester, any student who has not completed their proposal will be notified that they are eligible for probation at the end of that semester if they have not completed the proposal. Students and their advisors may request an extension due to extenuating circumstances before the end of the semester.

The Doctoral Progress Assessment Committee considers the case of any student eligible for probation or suspension. The committee will vote on whether to place any student on probation in accordance with this policy, giving proper consideration for any extenuating circumstances.

If the student has not proposed by the end of the eighth semester, then the student and the student's mentor can appeal to the Doctoral Progress Assessment Committee for an additional probation. If the student does not propose by the end of the ninth semester, then the student will be dismissed from the PhD program. Note that the counting of semesters must account for any leaves of absence by the student.

7.7 Title, Scope, and Procedure

As previously mentioned, once Doctoral students pass their proposal defense, students should submit their Proposal / Title, Scope & Procedure Form [6] to the McKelvey School of Engineering as soon as possible. This form briefly describes the planned work of the dissertation. The "Scope" portion of the dissertation indicates the specific area of study and the questions to be answered, while the "Procedure" briefly describes how the student carries out their work. The Title, Scope and Procedure Form must be registered with the McKelvey School of Engineering at least six months before the dissertation examination, or by the end of the fourth year, whichever comes first.

7.8 Research Presentations

Doctoral students are required to deliver a minimum of four research presentations at journal clubs, seminar series, scientific conferences, retreats, or a departmental seminar. Presentations given as part of the MTE, lab meetings, or dissertation committee meetings will not satisfy this requirement. The student should document the fulfillment of this requirement and submit it to the dissertation research mentor for approval. The approved document should then be submitted to the Graduate Program Advisor.

7.9 Annual Review of Student Progress

The student meets with the RAC / Dissertation Committee annually after the research proposal until the final defense; at least 4 members of the committee should attend. The student presents for approximately 15 minutes, highlighting progress and publications from the past year. The committee asks questions for approximately 30 minutes, focusing on progress, research direction, and potential areas of concern. Following the review, the Dissertation Committee provides feedback to the advisor and the student, with a copy to the Graduate Program Coordinator, who then provides copies to the ESE Graduate Committee. If there are concerns about the progress, then the report should discuss these concerns in detail. This report becomes part of the student's record within the department.

7.10 Final Defense

Upon completion of the dissertation, the doctoral candidate must work with the Graduate Program Coordinator and Graduate Program Advisor to schedule the defense at least one month in advance. Students need to contact the Graduate Program Advisor to complete the Dissertation Defense Committee Approval Form, prior to the defense. The candidate presents the dissertation in a public forum and successfully defends the dissertation before a committee consisting of the approved Dissertation Committee plus additional faculty as required. The dissertation must be approved by the completion of the PhD Dissertation Defense Approval Form [7] after their defense.

7.11 Submission and Printing of Dissertations

Candidates must submit their dissertations electronically to ProQuest ETD Administrator [H]. Students are given the option of ordering bound copies of their dissertations through ProQuest Thesis-On-Demand [I]. Electrical & Systems Engineering will cover the cost for the student. Students should reach out to the Graduate Program Coordinator for assistance. For dissertation format and submission guidelines, visit the McKelvey Dissertation Guide[J].

8. Policies

8.1 McKelvey School of Engineering Policy on Probation and Dismissal

The McKelvey School of Engineering Policy on Probation and Dismissal for Academic Reasons was approved April 24, 2014 by the Graduate Council and is embodied in the following Electrical & Systems Engineering Department plan. All students in departmental doctoral programs are expected to satisfy the academic performance requirements of the McKelvey School of Engineering, as described in The McKelvey School of Engineering Bulletin's General Requirements section. All doctoral students in Electrical & Systems Engineering must maintain a GPA of 3.0 or higher and register for ESE 5980 for all semesters of full-time status.

8.2 Dissertation Committee

If a student's progress is deemed unsatisfactory by the Dissertation Committee, the Committee may meet more frequently with the student and require continuing progress reports, to be shared with the Director of Graduate Studies. The Committee will work with the student to develop and implement an improvement plan, which for example, may include recommended coursework and/or additional training in research techniques or strategies, as well as a timeline for improvements and consequences (including possible termination from the PhD program). In unusual cases where the Committee repeatedly judges the progress unsatisfactory, the Committee in consultation with the Director of Graduate Studies may recommend probation or dismissal.

8.3 Department Procedures for Probation and Dismissal

To manage decisions regarding probation and dismissal, academic performance of all doctoral students is reviewed by the Doctoral Progress Assessment Committee (DPAC), which the department has designated to manage decisions regarding placement on probation, removal from probation, recommendations for dismissal after a probationary period, and recommendations for immediate dismissal due to extreme underperformance.

The DPAC is chaired by the Director of Graduate Studies. All decisions are made in accordance with the McKelvey School of Engineering's Policy on Probation and Dismissal for Academic Reasons. Normally, a probationary period would be no less than three months and, where probation criteria involve coursework, the probationary period will normally consist of one semester.

The student will be notified in writing of the decision, including an explanation of academic performance issues leading to probation or immediate dismissal and, if applicable, any requirements for what must be done within a specified period of time during the probationary period in order for the student to return to good standing. The written probation letter should generally be accompanied by the opportunity for the student to

meet with the Director of Graduate Studies or designated departmental faculty representatives for clarifying discussion(s) and copied to the vice dean for graduate research and education in the McKelvey School.

All students on probationary status will be reviewed by the DPAC at the conclusion of the probationary period to determine whether the student should be (a) removed from probation and returned to good standing; (b) continued probation; or (c) dismissed from the program. The student will be notified of the DPAC decision in writing.

If a student is dismissed from the program, the student will be notified in writing and will have the opportunity to appeal such dismissal in accordance with the McKelvey School of Engineering on Probation and Dismissal for Doctoral students.

8.4 Research Assistantships

Research assistantships generally provide a stipend and some tuition from government or industry grants and contracts. They are awarded to students who have advanced to candidacy and made a commitment to a particular research area and who, by virtue of their academic background and record, satisfy a particular project's needs.

Research assistantships may be supplemented by tuition scholarships that may be funded jointly by the McKelvey School of Engineering and the School of Medicine. Research assistants are responsible to the project director (principal investigator) of the project. (Generally, this same individual eventually assumes the additional role of dissertation or dissertation mentor.)

8.5 Doctoral Students Adding a Master's Degree

A doctoral student will almost certainly meet the requirements for a Master's degree in ESE as they progress through the milestones for their doctoral program. ESE would like to encourage all doctoral students to also obtain Master's degree once they have met those requirements. However, students wishing to add a Master's program must first have the Master's program added to their plan of study by the ESE department. The student will send a request to add the program to the Director of ESE Master's Studies. The research advisor for the student will then be informed of the request to open this program so that they may discuss this with the student if that has not already happened. After the student and research advisor have had a chance to determine how this fits into the overall academic plan for the students, the Director of Master's Studies will have the registrar add the program to the student's plan of study. Students must still file for program completion on Workday for that program once they have met the requirements. Doctoral students should note that transferring courses into a master's program is done on a course-by-course basis and should consult the master's handbook for that procedure.

8.6 Outside Employment

Holders of fellowships, traineeships and assistantships are required to devote their 100% effort to graduate studies. They are not permitted to engage in any outside employment without special permission of the co-directors.

Some students pursuing a PhD in ESE want to have an internship with a potential permanent employer. The decision about whether to pursue an internship and the implications on research progress and timing should be carefully discussed with the research advisor prior to accepting a position, and students must complete co-op or internship approval forms. Logistics should be completed in coordination with the Graduate Program Advisor and approved by the Director of Graduate Studies.

8.7 External Professional Activity for Full-Time Doctoral Students in McKelvey Engineering School of Engineering

Students and faculty must follow the guidelines developed by the university's Conflict of Interest Review Committee (CIRC) [K].

8.8 Time Off

Graduate students receiving awards are expected to commit themselves fully to their studies and research regardless of whether classes are in session. Intersession periods listed in the University Academic Calendar note times when classes are not in session. Graduate students in residence should, however, utilize these periods to further their studies and research. Intersession periods are not time off for graduate students receiving a stipend and students are expected to work full time on research during these periods.

Students on full stipend are permitted to take a maximum of two weeks of vacation during the calendar year and are expected to communicate the timing of that vacation with their research advisor. In addition, students are permitted to take the university scheduled holidays. Additional time off can be arranged but must be approved ahead of time by the research mentor (once selected) or the Director of Graduate Studies (before the selection of a research mentor). Absences of research assistants must be scheduled so as not to impede the progress of an ongoing research project and should be cleared with the research mentor.

9. Resources

9.1 Administrative Support

Department staff will help students with payroll, their purchases, keys and allocation of space issues. They do not generally provide clerical services to graduate students except in connection with scheduled courses and sponsored research projects.

9.2 Copying Service

Graduate students may not charge copying coursework to the department or a research project without prior authorization. Requests for copying service are normally channeled through the department staff, who are instructed to verify authorization with the department chair.

9.3 Child Daycare Subsidy

If you have any children, you may qualify for a subsidy for daycare offered by Washington University in St. Louis. The Office of the Provost describes: "the purpose of the Child Daycare Subsidy [L] is to help PhD student families meet the costs of child daycare while they pursue their studies. The amount of child daycare subsidy awarded to eligible applicants depends on their financial need, the number of children they have enrolled in child daycare facilities, their child daycare expenses, and available funding."

You can find eligibility requirements and more information here.

9.4 Resilience and Mental Health Resources

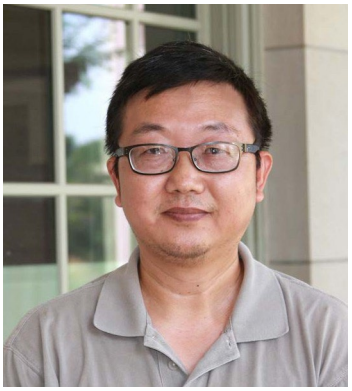
- Habif Health has a wealth of resources for Graduate Student Mental Health [M] including: Student Health, Student Counseling, Let's Talk Program.
- NIH occasionally offers a Resilient Scientist [N] series. Recordings of previous sessions are available online.[i]

10. Faculty and Staff

Bruno Sinopoli
Department Chair
bsinopoli@wustl.edu

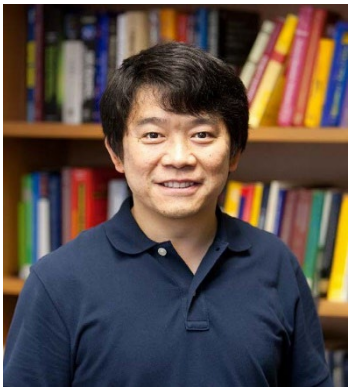
Chuan Wang
Director of Graduate Studies
chuanwang@wustl.edu

Jim Feher
Director of Master's Studies
Primary Advisor for Master of Science Electrical Engineering
Controls Certificate Director
jdfeher@wustl.edu



Jinsong Zhang
Primary Advisor for Master of Science in Data Analytics and Statistics
Primary Advisor for Master of Systems Science and Mathematics
Jinsong.zhang@wustl.edu

Vladimir Kurenok
Financial Engineering Certificate Director
kurenokv@ese.wustl.edu



Jung-Tsung Shen
Quantum Engineering Certificate Director
jushen@wustl.edu

Joseph O'Sullivan
Imaging Science Certificate Director
jao@wustl.edu

Angel Algarin
Department Administrator
aalgarin@wustl.edu

5. Graduate Student Services Staff

Holly Stanwich
Director of Graduate Student Affairs
hstanwich@wustl.edu

Johanna Sengheiser
Graduate Financial Aid Analyst & Accountant
jseingheiser@wust.edu

Stacia Burd
Graduate Program Advisor
staciaburd@wustl.edu

11. Appendix I. Forms

1. Transfer Credit Form
2. PhD Qualifying Exam Form
3. ESE Lab Rotation Form
4. Lab Affiliation Form
5. Research Advisory Committee Approval Form
6. Proposal/Title Scope & Procedure
7. Dissertation Approval Form

12. Appendix II. Websites

A. McKelvey School of Engineering
B. Graduate Student Services
C. Electrical & Systems Engineering Department
D. Qualtrics Annual Review

E. Responsible Conduct of Research Course

F. WashU EDI

G. Medical Campus DEI

H. ProQuest ETD Administrator

I. ProQuest Thesis on Demand

J. McKelvey Dissertation Guide

K. Conflict of Interest Office

L. Childcare Subsidy

M. Graduate Student Mental Health Resources

N. NIH Resilient Scientist

[i] July 2025 Version – Please share any suggestions for improvements to Stacia Burd and Chuan Wang.