THE GEORGE WASHINGTON UNIVERSITY
ONLINE ENGINEERING PROGRAMS OFFICE

DOCTOR OF PHILOSOPHY (PH.D.) STUDENT GUIDELINES

PH.D. STUDENT GUIDELINES

Doctor of Philosophy Program Overview

The Doctor of Philosophy (Ph.D.) programs consist of a minimum of 54 credit hours divided into 2 stages. The first stage comprises a classroom experience of 8 graduate-level, 3-credit-hour courses. The second stage comprises a qualifying exam and an independent research effort of at least 30 credit hours of dissertation research culminating in the dissertation defense. The original dissertation is written in the field of systems engineering, which focuses on innovation in the theories that govern the structure, operation, and management of technical and scientific organizations.

The program's **3 milestone** accomplishments must be completed by specific deadlines in keeping with the accelerated nature of the program. After completing the coursework with a minimum Grade-Point Average (GPA) of 3.4 (**Milestone 1**), and passing a qualifying oral examination (**Milestone 2**), the dissertation may be defended (**Milestone 3**).

The objectives of the Ph.D. program in systems engineering are to ensure that graduates:

- Demonstrate, orally and in writing, mastery of broad-based knowledge in systems engineering, and of a specific area of knowledge relevant to their own research interests, including theories and methodologies, along with mastery of a research methodology.
- Demonstrate mastery of the methods, tools, and ethics of conducting primary research, and mastery of discovering and effectively evaluating appropriate secondary research sources, to support an original idea of their own.
- Develop and present an original study to the scholarly community that is based on research in primary sources and makes a significant contribution to the field, and that demonstrates the ability to engage in a productive research career.

Registration

The student must maintain continuous enrollment throughout the doctoral program. Semester enrollment information is distributed by the Online Engineering Programs Office by email before the start of each semester, and registration is processed directly by the office on the date listed in that email, assuming that the students have honored their academic and financial obligations to the university.

Registration holds are placed on student accounts with outstanding balances. Our office cannot process registration when there is a registration hold on the account. For this reason, students must make payment on time each semester. Late payment of tuition is possible grounds for removal from the doctoral cohort. Additional details and policies

can be found at https://seasonline.gwu.edu/about-us/policies-procedures-doctoral/.

Leaves of absence (LOA): Doctoral curricula are determined by the faculty, and course information is provided to students by email from the Online Engineering Programs Office before the start of each semester. Students are registered as members of a cohort. This means that all courses are taken in lock-step throughout the program. Leaves of absence are generally not permitted. A Ph.D. student who finds it necessary to interrupt active pursuit of the degree may petition the Online Engineering Programs Office for a leave of absence by emailing a full explanation and attaching a completed LOA form and any supporting documentation to seasdoc@gwu.edu. Petitions are usually answered within two work weeks. LOAs may be granted for family emergency (up to 6 months), physical or mental health treatment (up to 6 months), or deployment to active military duty (up to one year).

Transfer credit: Transfer of credit is not permitted in doctoral programs.

The Classroom Stage

To complete the classroom stage Ph.D. students must satisfactorily complete the required curriculum of 24 credit hours, complete each course with a grade of *B-* or better, and achieve a minimum GPA of 3.4 (**Milestone 1**).

Grading and Scholarship: GW uses the following grading system for graduate students: *A*, *B*, *C*, *F;* other grades that may be assigned are *A−*, *B+*, *B−*, *C+, C-*. Individual course grades are based on a standard curve relative to the class average.

Students who receive *1* grade below *B-* are barred from further enrollment in graduate courses and will not be readmitted as a degree candidate.

The Research Stage

Following successful completion of the classroom stage (**Milestone 1**), the student is admitted to candidacy for the Ph.D. and is enrolled in EMSE 8999 Dissertation Research to conduct the research to be developed into the program milestone accomplishments.

Research stage requirements:

    A. enroll in a minimum 30 credit hours of EMSE 8999
    B. pass a qualifying oral examination before a faculty panel
    C. write and defend a dissertation.

No fewer than 30 credit hours of EMSE 8999 will satisfy the requirements for the Ph.D. Students are registered for a minimum of 6 credit hours in each Fall and Spring semester and 3 credit hours in Summer. Extensions may be granted on a case by case basis depending on the candidate's satisfactory progress toward the program milestones. During approved extension semesters, students are registered for 3 credit hours each summer and 6 credit hours each fall and spring semester at the tuition rate in effect at that time.

The average minimum amount of out-of-class or independent learning you should expect to perform each semester in the research course is approximately 20 hours per week.

Doctoral Research Advisors

The program faculty assign doctoral research advisors to the Ph.D. candidates as they enter the research phase. Candidates work with their assigned advisor team for the remainder of the program.

Research Meetings and Feedback

The advisors schedule monthly research meetings with the advisees, who are required to attend. Meetings are announced by email in advance. Candidates are responsible for submitting slides covering research progress to the advisors by the deadline provided in the meeting announcement. Slides must be submitted for all meetings, even if the student will be absent.

Advisor teams directly manage the research course EMSE 8999. Slide submission deadlines are set by the advisor team and communicated to the students by email.

Students receive written feedback from the advisors after each advising meeting, and a Semester Summary Report at the end of each semester. Progress is noted as:

- **Green** – Student is making sufficient progress toward milestone completion
- **Yellow** – Student is making some progress but is in danger of not meeting milestone timelines
- **Red** – Student is making insufficient progress

If the advisors determine that the student makes insufficient progress (**Red**) in a semester, a NC (No Credit) grade is assigned for the course on the transcript and the candidate's program and research toward the Ph.D. is terminated. A one-time courtesy option to convert in the current semester to a post-master's professional degree (Engineer or Applied Scientist) is offered.

The Program Milestones

Ph.D. candidates (students in the research stage) who are registered for EMSE 8999 complete **Milestones 2**, and **3**, described below.

Milestone 1—Grade-Point Average

Students must complete the required Ph.D. classroom courses with a final GPA of 3.4/4.0 or better. They can have no grades below B-.

Milestone 2— Qualifying Oral Examination/Conference Presentation

At the end of the first semester of research, the candidate must attempt and pass the qualifying oral examination before a faculty panel. The examination will focus on background knowledge, literature search information, and as well as try to determine if the projected research will be sufficient, will produce work that will make a significant contribution to the field, and will be able to be completed in the allotted time frame. In support of the qualifying exam, the candidates are expected to submit and be approved for a presentation in a scholarly Systems Engineering conference.

Candidates who fail to pass may attempt the exam again the following semester. If a candidate does not pass the qualifying exam after the second attempt, their studies will be terminated and they will have the option to have their work transferred to a professional degree program.

Milestone 3—Dissertation and Final Examination

Upon successful completion of all prior requirements, the candidate submits the final dissertation, approved by their advisors, to seasdoc@gwu.edu. Below are guidelines and instructions for the dissertation defense (final examination).

- Refer to https://library.gwu.edu/seas-etds for dissertation format guidelines.
- Once the advisor approves the final version of the dissertation, you forward it to seasonline@gwu.edu requesting an Academic Integrity Review (AIR).
- Upon receiving your final dissertation from you, the office submits it for AIR. If it does not pass, we notify you asking that any problems be fixed.
- When the dissertation meets AIR requirements, the final examination is scheduled and details are announced by email. At that time, all graduation paperwork and committee information is provided.
- Membership on the committee of examiners is determined by Online Engineering Programs Office.
- You will submit the dissertation to the committee members by email.

- When the final examination committee is convinced of the quality and originality of the candidate's contribution to knowledge as well as his or her mastery of the scholarship and research techniques in the field, the committee recommends the candidate for the degree of Doctor of Philosophy.
- After a successful dissertation defense, students must submit the advisor-approved final version to GW's ETD system. Before submitting, dissertations must properly formatted, following the GW ETD Formatting and Submission guidelines.

A Note on Time to Completion

The Doctor of Philosophy degree program is designed for the student to complete all milestones in under 4 years. Candidates who do not successfully complete the requirements within five years will have the option to have their work transferred to a professional degree program.

A Note on Academic Integrity

All student papers (conference proceedings and dissertations) must pass AIR before being submitted outside the university. It is the responsibility of the student to submit these items to the Online Engineering Programs Office at seasonline@gwu.edu for AIR before submitting them. Papers should be approved by the advisors before the student submits them to Online Engineering Programs Office for AIR. Once the advisors approve the final version of a paper, the item should be forwarded to seasonline@gwu.edu with a request for AIR evaluation. An email confirmation is sent once the item has passed and is approved for submission.

All papers are expected to use proper citation and pass the AIR without issue. If a paper fails the AIR, the Online Engineering Programs Office provides a courtesy report to the student so that appropriate updates can be made. Submissions with academic integrity concerns that do not pass the review on the 3rd attempt may be forwarded to the GW Academic Integrity Council for additional evaluation. The GW Code of Academic Integrity may be viewed at http://www.gwu.edu/~ntegrity/.

In researching the dissertation, and in any published and public results, the candidate must follow GW policies on research conduct and the use of copyrighted material. See http://my.gwu.edu/files/policies/ResearchMisconductPolicy.pdf and http://library.gwu.edu/etd/copyright.

Graduation Clearance

After a successful dissertation defense the Online Engineering Programs Office assembles all necessary documentation for graduation clearance.

Degrees are conferred in January, May, and August. To be recommended by the faculty for graduation, a student must have met the admission requirements of the school in which registered; completed satisfactorily the scholarship, curriculum, and other requirements for the degree; filed an application for graduation by the date requested by Online Engineering Programs Office; and be free from all indebtedness to the university. Enrollment is required in the semester at the close of which the degree is to be conferred, and all degree requirements must be completed by the last day of final examinations for that semester.

Diplomas are mailed 12-14 weeks following the date of degree conferral, barring unforeseen circumstances. Diplomas are mailed to the Diploma Address in the record. The candidate is responsible to enter this address in the GWeb information system and make any updates. See the following link for graduation application instructions: https://registrar.gwu.edu/online-graduation-application-instructions. The Diploma Address must be entered before the application for graduation is submitted.

If you do not receive the diploma by 12-14 weeks after your graduation date, check the online transcript to see if the degree was conferred. If it was conferred, the missing diploma must be reported to the Registrar's Graduation Services Office within 6 months. After that time a fee is charged for a replacement diploma. Also check to see if there are any financial holds on the account. A diploma is only sent if the balance owed is less than $500. If the degree was not conferred, check with the Online Engineering Programs Office.

Commencement

Participation in the annual Commencement ceremonies in May is open to students who have applied to graduate in the current spring semester or who graduated the preceding fall or summer semester.

Doctoral candidates who have not successfully defended their dissertations and completed their ETD Approval form by 1 April may not participate in either the May University Commencement or the SEAS graduation ceremony.

Students who apply to graduate after the published deadlines are not guaranteed Commencement materials and may not be listed in the Commencement program. Find

more information about University Commencement at https://commencement.gwu.edu/.

Administration

The Online Engineering Programs Office staff is responsible for monitoring and tracking student progress. For this reason, all communication related to the Ph.D. programs must involve Online Engineering Programs Office (seasdoc@gwu.edu). Relevant communications comprise advisor/student interaction, research inquiries, and all other program-related information. Additionally, students are expected to keep the Online Engineering Programs Office informed of their current contact information, such as email address, home address, and telephone numbers, including cell phone number.

Find the university policies and regulations in the George Washington University Bulletin at http://www.gwu.edu/~bulletin/ .