



Doctoral General Examination and Candidate Status

(Effective 06-01-2023)

Successful progression into candidacy for the Ph.D. demands mastery of research approaches and relevant scientific literature. It is expected that by the time of the examination, the student will have performed sufficient preliminary work to allow the Supervisory Committee to assess the likelihood of successful completion of the proposed PhD. To this end, graduate students in Aeronautics & Astronautics are required to document and present their dissertation research plan. This requirement is intended to encourage thoughtful design of an effective research strategy and comprehensive understanding of the relevant issues at an early stage of the overall research effort. It is the student's responsibility to know the complete [Graduate School requirements](#) for the General Exam. The information contained in this document is to serve as an additional guide.

Note: Students should plan to take their General Exam at least one year after passing the Qualifying Exam. Students must also complete a minimum of 60 credits of graduate-level work (including a minimum of 18 numerically graded 500-level credits) before a General Exam is scheduled.

The requirements and procedures for the exam are as follows:

1. A Doctoral Supervisory Committee should be established as soon as possible after successfully passing the Qualifying Exam. While committee memberships often remain relatively static between the Qualifying, General, and Final Exams, a Doctoral Supervisory Committee may differ in composition from the Qualifying Exam Committee as needed. At the very latest, the Doctoral Supervisory Committee should be in place the quarter before the General Exam is to be scheduled. A doctoral committee must consist of at least five members:

- a) Committee Chair

Note: The Chair of a student's Doctoral Supervisory Committee must hold an appointment in the A&A Department. (Adjunct faculty appointments are sufficient.) The remaining committee members may be from within or outside of the A&A Department, but the majority (at least 51%) of the overall committee membership must hold an endorsement to chair doctoral supervisory committees (as seen by searching in the following database: <https://grad.uw.edu/for-faculty-and-staff/graduate-faculty-locator/>).

- b) Depth Area Faculty Member
- c) Depth Area Faculty Member
- d) Breadth Area Faculty Member
- e) Graduate School Representative (GSR)

Note: The GSR may hold an adjunct appointment in the department, but the preference is that they have no official appointment or affiliation with the A&A Department. Additionally, the GSR must not have any conflict of interest as detailed at: <https://grad.uw.edu/policies/graduate-school-representative-gsr-eligibility/>



2. The student is expected to discuss their research progress with their Research Advisor, and to obtain verbal approval to attempt the General Exam. Next, the student should consult with **all** members of their Supervisory Committee. All members must agree that the student's background of study and preparation is sufficient and approve the student to schedule the General Examination. If all members agree, the student then proceeds to determine a General Exam date and time.

At least three weeks prior to the exam date, a student must:

1. **Schedule the General Exam** via [MyGrad Program](#)
2. **Submit a Research Proposal** to all members of the committee. A copy must also be sent to the Graduate Academic Advisor at aerograd@uw.edu.
 - **Research Proposal/Written Exam Format:** The research proposal should be at least 20 pages long (double spaced in 11-point or 12-point font), not including additional pages of figures and references. It is expected that if no major changes occur in the direction of the student's research, parts of the written exam/ research proposal would function as the introduction and foundation of the PhD Dissertation. It is necessary to have a clear view of the issues to be addressed in the eventual Dissertation. Furthermore, if the direction of the Dissertation is not in sharp focus at the time of the General Examination, it is difficult for the Supervisory Committee members to accurately assess the student's readiness to proceed. For these reasons we strongly advise students to confer directly with **all** their committee members about the direction of their proposed Dissertation research prior to commencing the written portion of the examination. While students should confer with their research supervisors about the appropriate weighting of each section, the content should generally be as indicated below:
 - a) **Research Plan**

Briefly describe the key issues and how you plan to achieve an experimental solution. You should specify one or more clear-cut hypotheses and define a few (2-5) specific aims that will enable you to test each hypothesis.
 - b) **Background**

Describe in detail how this problem has been studied in the past, what was learned, what remains unsolved, and why.
 - c) **Preliminary Findings**

Describe work you already have done on the problem and discuss your data. If relevant data are lacking, describe related work you have done and how the skills and findings learned from this work influence your plans for the proposed work.
 - d) **Methods of Procedure**

Detail the technical aspects of your planned work with regard to each of your specific aims. What specific experimental procedures will you employ? Where applicable, justify your use of the specific procedures chosen as opposed to others that may be available.
 - e) **Alternative Approaches**

You should be prepared in your oral examination to discuss how the broader scientific issues you are proposing to address in your work might be studied via another experimental method. Outline at least one such alternative approach here in your written preparation.



f) **Significance**

How might you expect your future findings to advance scientific knowledge more broadly and/or benefit society?

One week prior to the exam, the student must remind the committee members of the date, time, and location. Email is okay, but if the student does not get a prompt response, they must follow-up with phone and/or personal contact.

On the morning of the exam, the student must verify that the Committee Chair has received an email from DocuSign with the electronic General Exam Signature Form. Once the Committee Chair has indicated the exam outcome (after the exam is completed), the DocuSign system will route the paperwork to the other committee members for their signature.

At the time of exam, a quorum of four members from the Supervisory Committee including the Chair, Graduate School Representative (GSR), and two additional general members must be present. If this quorum is not met, please see options noted at: <https://grad.uw.edu/policies/if-a-committee-member-is-missing/>

Oral Exam Format:

The General Examination itself is an Oral Exam of about two hours' duration. It begins with the student's presentation, followed by questions. Presentations and general questioning are open to the public followed by a closed examination session limited to the student and the committee.

- Give a brief (30-40 minute) presentation of the written Research Proposal: Salient background, major questions and results to date, projections for the immediate future.
- Answer questions (approximately 30 minutes) concerning the basis of experimental procedures employed, the conclusions drawn from the results to date, and possible alternate strategies. Qualities of successful oral defense include being able to demonstrate an understanding of other experimental approaches being used to answer the same and related questions as well as being able to describe and evaluate the major experimental and/or conceptual foundations of the research project.
- A closed examination session limited to the student and the committee follows the public presentation.

If the General Examination is satisfactory, the Supervisory Committee members who participate in the examination electronically sign the signature form via DocuSign. If an examination is unsatisfactory, the Supervisory Committee may recommend that the Dean of the Graduate School permit up to a maximum of two additional reexaminations after a period of additional study. Any members of a Supervisory Committee who do not agree with the majority opinion are encouraged to submit a minority report to the Dean of the Graduate School.

When the Graduate School approves candidacy, the student is designated as a candidate for the appropriate doctoral degree and is awarded a candidate certificate. After achieving candidate status, a student ordinarily devotes his or her time primarily to the completion of research, writing of the Dissertation, and preparation for the Final Examination.



Faculty responsibilities related to the General Examination

1. Read and understand the student focused “**Doctoral General Examination and Candidate Status**” guideline/timeline document.
 - a. Understand the expected page length and included content of the Research Proposal document.
 - b. Understand the expected time length and breakdown of the Oral Exam components.
2. If you are the student’s primary research advisor, assist your student in forming their Doctoral Supervisory Committee. A Doctoral Supervisory Committee must consist of at least five members:
 - a. Committee Chair
Note: The Chair of a student's Doctoral Supervisory Committee must hold an appointment in the A&A Department. (Adjunct faculty appointments are sufficient.)
 - b. Depth Area Faculty Member
 - c. Depth Area Faculty Member
 - d. Breadth Area Faculty Member
 - e. Graduate School Representative (GSR).
Note: The GSR may hold an adjunct appointment in the department, but the preference is that they have no official appointment or affiliation with the A&A Department. Additionally, the GSR must not have any conflict of interest as detailed at: <https://grad.uw.edu/policies/graduate-school-representative-gsr-eligibility/>
3. If you are the student’s primary research advisor, work with your student to determine an exam time/date that is agreeable to all committee members.
4. If you are the student’s primary research advisor, remind them to officially schedule the exam via [MyGrad Program](#).
5. Receive and read the student's Research Proposal document. This should be sent to the entire committee by the student no later than three weeks prior to the scheduled exam date.
6. Attend the student's general exam.
7. Once the exam is complete, sign the "Committee Approval Form" via DocuSign (unique link in your UW email). We are unable to officially communicate the student's exam outcome to the Graduate School without the entire committee electronically signing the DocuSign form. The Committee Chair will have received an email from DocuSign with the electronic General Exam Signature Form on the morning of the exam. Once the Committee Chair has indicated the exam outcome (after the exam is completed), the DocuSign system will then route the paperwork to the other committee members for their signature.
 - a. If you are the Committee Chair, please ensure that you have received the DocuSign Email by the time the exam begins.
 - b. If you are not the Chair (but are a committee member), please keep an eye on your email for the DocuSign paperwork to arrive immediately after the Committee Chair indicates the exam outcome (sometime after the exam concludes).