Qualifying Exams

The PhD Written Qualifying Exam (WQE) must be passed by all students wishing to be admitted to PhD candidacy. It is a necessary step toward completing the PhD degree.

The Written Qualifying Exam is given once a year in June. If you begin the PhD program in the fall, you should try to take the exam during your first year (but it is not mandatory in the first year).

Written qualifying guidelines and sample exams are available on the Graduate Student Portal on Canvas.

Aerospace Engineering:

Written Qualifying Exam: It is a sequence of three, three-hour exams on fundamental subjects in the student's Area of Study. Students are required to take a combination of three exams from the following topics, depending on the Area of Study: aerothermodynamics, control theory, dynamics, fluid mechanics, mathematics, orbital mechanics, solid mechanics, and systems. The written exam is general in nature and covers subject matter studied mainly in the first year or two. Students may not take courses on credit/no credit basis toward a degree until after they have passed the written qualifying exam. The exam date will be announced in March, you should first consult with your Supervisor to be sure you register for the right exams and registration is through the Graduate Coordinator. The results will be announced as soon as possible after the exams are graded, usually by early July. If you do not pass the exam, the Graduate Studies Committee may or may not allow you to take the exam a second time. If you are allowed to retake the exam, you must retake all three exams.

Oral Qualifying Exam: The Oral Qualifying Exam is offered to students who have passed the Written Qualifying Exam. The Oral Qualifying Exam is a 2-3 hour exam on fundamentals in the general area of your research. The purpose of the exam is to certify that you are on track for doing research toward your dissertation.

To arrange the oral exam, download an Oral Exam Request form. With your Supervisor(s), select the faculty from the Graduate Studies Committee (GSC) you would like to conduct the exam. Next, ask the faculty if they are willing to be on the exam committee, and arrange a time for the exam. Reserve a conference room for the exam on line. Give the completed form to the Graduate Coordinator at least two weeks prior to your event. An official notice of the exam will be sent to each member of the exam committee. The committee will decide whether or not you pass the exam and if there are any conditions imposed on the pass. You will be told the results of the exam as soon as the committee completes its deliberations. If you do not pass the exam, the committee will decide whether or not you may retake the exam.

Engineering Mechanics:

Written Qualifying Exam: It is a sequence of three, three-hour exams on fundamental subjects in the student's Area of Study. Students are required to take a combination of three exams from the following topics, depending on the Area of Study: aerothermodynamics, control theory, dynamics, fluid mechanics, mathematics, orbital mechanics, solid mechanics, and systems. The written exam is general in nature and covers subject matter studied mainly in the first year or two. Students may not take courses on credit/no credit basis toward a degree until after they have passed the written qualifying exam. The exam date will be announced in March, you should first consult with your Supervisor to be sure you register for the right exams and registration is through the Graduate Coordinator. The results will be announced as soon as possible after the exams are graded, usually by early July. If you do not pass the exam, the Graduate Studies Committee may or may not allow you to take the exam a second time. If you are allowed to retake the exam, you must retake all three exams.

Oral Qualifying Exam: The Oral Qualifying Exam is offered to students who have passed the Written Qualifying Exam. The Oral Qualifying Exam is a 2-3 hour exam given in the student's Area of Study and is conducted by a committee of faculty members after 2-3 years in the program. The purpose of the exam is to certify that you are on track for doing research toward your dissertation.

To arrange the oral qualifying exam, take the following steps: (1) Download an Oral Exam Request form; (2) With your Supervisor(s), select the faculty members from the EM Graduate Studies Committee (GSC) to form the exam committee; (3) Get the committee approved by the Graduate Advisor; (4) Contact the faculty members on the exam committee to confirm that they are willing to serve on the committee, and arrange a time for the exam; (5) Reserve a conference room for the exam; (6) Submit the completed Oral Exam Request form to the Graduate Advisor at least two weeks prior to your exam. An official notice of the exam will be sent to each member of the exam committee. The committee will decide whether or not you pass the exam and if there are any conditions imposed on the pass. You will be told the results of the exam as soon as the committee completes its deliberations. If you do not pass the exam, the committee will decide whether or not you may retake the exam.