SCAN ME

Mechanical and Aerospace Engineering Graduate Programs Degree Requirements for a PhD

https://tiny.utk.edu/mabe-grad-reqs-phd



1. Non-research Coursework Is Required Beyond Your Previous BS or MS Degree

BS

Minimum of **42 credit hours of graduate coursework** beyond BS, exclusive of AE/ME 595, 600, or 601

MS (*gets you up to a 24-credit-hour head start over BS*)

Minimum of **12 credit hours of graduate coursework** beyond MS, exclusive of AE/ME 595, 600, or 601

In both cases with a previous BS or MS degree

2. Department Seminar Is Necessary to Learn About Your Academic Home

Minimum of **1 credit hour of AE/ME 595 - Seminar**

3. Math Is a Must for All Engineers

Minimum of **9 credit hours of graduate coursework in mathematics** in the Graduate Catalog (MATH or STAT), including a **minimum of 3 credit hours numbered 500 or above**

- You may use MS institution (*if applicable*) and UTK mathematics graduate coursework for this requirement.
- If you would rather replace UTK MATH 401-699 or STAT 503-699 courses, then options already approved by the MABE Graduate Programs Committee include:
  - AE//ME 501 - Advanced Engineering Math
  - AE//ME 504 - Intro to Uncertainty Quantification
  - ME 511 - Heat Transfer I
  - ME 516 - Data Measurement and Analysis
  - ME 517 - Finite Elements for Engineering Applications
  - ME 518 - Computational Fluid Dynamics
  - ME/AE 528 - Partial Differential Equation
  - ME/AE 529 - Application of Linear Algebra in Engineering Systems
  - ME 547 - Modern Linear Controls
  - ME 570 - Numerical Methods for Engineers
  - ME 591 - Advanced Engineering Analysis

4. Your Degree Focus Is AE, BME, or ME

Minimum of **21 credit hours of graduate coursework in your degree focus (AE or ME) numbered 500 or above**, exclusive of AE/ME 601.

- You may use MS institution (*if applicable*) and UTK graduate coursework in AE or ME for this requirement

5. Some PhD-level Coursework Goes Above the MS-level

Minimum of **6 credit hours of graduate coursework at the 600-level**, exclusive of AE/ME 600 and AE/ME 601

- You will need to take these courses at UTK because they are above the MS level.

6. PhD Candidates Must Pass the Written and Oral Qualifying Examination

Exactly **3 credit hours of AE/ME 601 - Doctoral Research Methodology**

7. Doctoral Research and Dissertation Work Is Needed to Reach the Finish Line

Minimum of **24 credit hours of AE/ME 600 - Doctoral Research and Dissertation**

8. Graduate Coursework Hours + Dissertation Hours ≥ 72 Hours

Minimum of **72 credit hours of approved graduate coursework and doctoral dissertation work** to meet the university's minimum required hours, inclusive of AE/ME 595 and AE/ME 601

- You may use MS institution (*if applicable*) and UTK graduate coursework for this requirement.
- If entering with an MS degree, then you need to complete a minimum of 48 total additional credit hours (72 to reach the PhD minus 24 maximum used from the existing MS), including any AE/ME and/or MATH requirements. The two extremes bounding any combination you choose of the two category (graduate coursework and doctoral dissertation) minimum hours are:
  - Minimum 12 hours of graduate coursework plus above-the-minimum 36 hours of 600 Dissertation, or
  - Minimum 24 hours of 600 Dissertation plus above-the-minimum 24 hours of graduate coursework

9. Intensive Study Must Be Completed for Consecutive Semesters

For the university's doctoral degree residence requirement, **intensive study over 2 or more consecutive semesters, including summers, may be satisfied by either of two options:**

1. **Enroll in 2 consecutive semesters of 9+ credit hours.** You must complete 9 credit hours in 2 consecutive semesters or take option #2 below.
2. **Enroll in 3 consecutive semesters of 6+ credit hours.** If you do not take the option #1 above, then you must complete at least one summer semester with 6 credit hours adjacent to a set of fall and spring semesters with at least 6 credit hours each.

10. Finish Your Dissertation Tasks, Submit Forms, and Meet All Graduate School Deadlines

Successful **dissertation defense and submission** as well as **submitting all Graduation Deadline forms on time**