

MAE PhD Program Student Guide

Hello Doctoral Students,

Included here is important information to help ensure you are meeting all of the requirements for the Mechanical and Aerospace Engineering PhD program. Please review this information and contact the MAE Graduate Office (mae_gradoffice@ncsu.edu) if you have additional questions.

Quick Guide to Resource Links Provided in this Guide

Below is a list of websites referenced throughout this student guide.

University Calendars - <https://studentservices.ncsu.edu/calendars/>

NCSU Graduate Handbook - <http://catalog.ncsu.edu/graduate/graduate-handbook/>

Graduate School Forms - <https://grad.ncsu.edu/faculty-and-staff/forms/>

MyPack Portal User Guide - <https://sis.emas.ncsu.edu/students/>

[Student Information System Training Manual](#)

- Creating a Plan of Work (pg. 4)
- Creating an Advisory Committee (pg. 7)
- Applying for Graduation (pg. 12)

[How to create a Plan of Work](#) (video)

Electronic Theses and Dissertations (ETD) Deadlines & Information - <https://grad.ncsu.edu/students/etd/>

MAE Graduate Student FAQ - <https://www.mae.ncsu.edu/graduate-faqs/>

MAE Graduate Advising Website - <https://www.mae.ncsu.edu/academics/graduate-programs/graduate-advising/>

Table of Contents

(Click the heading to jump to a section)

Doctoral Degree Requirements	3
Enrollment & Credit Hour Requirements.....	4
Graduate Plan of Work & Advisory Committee	5
Building Your Committee	6
The Graduate Plan of Work Approval Process:.....	6
How/Why to Request to Reset Your Graduate Plan of Work	6
The PhD Preliminary Examination.....	7
The PhD Final Examination (Final Defense)	8
Electronic Theses and Dissertations (ETD) Information.....	9
Applying to Graduate (MyPack Portal)	9
Semester-by-Semester PhD Program Checklist	10

Doctoral Degree Requirements

If you have a master's degree from NCSU & will not be pursuing a minor:

- Minimum GPA: 3.0
- Transfer Credits: Allotted 30 credit hours of transfer credit to count toward the completion of the PhD. These credit hours can be added to the Graduate Plan of Work as one lump sum of transfer credit.
- Graded Courses: You must have a minimum of 18 credits from graded courses
 - o Up to 2 courses (6 credits) can be from non-MAE courses approved by your advisor
- 700-level courses: If you joined our program in Fall 2016 or later, you must take at least two 700-level courses
- Research Credits: You must have a minimum of 24 credits of MAE 895
- Total Credits required is 72

If you have a master's degree from NCSU & will be pursuing a minor:

- Minimum GPA: 3.0
- Transfer Credits: Allotted 30 credit hours of transfer credit to count toward the completion of the PhD. These credit hours can be added to the Graduate Plan of Work as one lump sum of transfer credit.
- Graded Courses: You must have a minimum of 21 credits from graded courses
 - o Up to 3 courses (9 credits) can be from non-MAE courses approved by your advisor
- 700-level courses: If you joined our program in Fall 2016 or later, you must take at least two 700-level courses
- Research Credits: You must have a minimum of 24 credits of MAE 895
- Total Credits required is 75

If you have a master's degree from outside NCSU & will not be pursuing a minor:

- Minimum GPA: 3.0
- Transfer Credits: Allotted 18 credit hours of transfer credit to count toward the completion of the PhD. These credit hours can be added to the Graduate Plan of Work as one lump sum of transfer credit.
- Graded Courses: You must have a minimum of 18 credits from graded courses
 - o Up to 2 courses (6 credits) can be from non-MAE courses approved by your advisor
- 700-level courses: If you joined our program in Fall 2016 or later, you must take at least two 700-level courses
- Research Credits: You must have a minimum of 36 credits of MAE 895
- Total Credits required is 72

If you have a master's degree from outside NCSU & will be pursuing a minor:

- Minimum GPA: 3.0
- Transfer Credits: Allotted 18 credit hours of transfer credit to count toward the completion of the PhD. These credit hours can be added to the Graduate Plan of Work as one lump sum of transfer credit.
- Graded Courses: You must have a minimum of 21 credits from graded courses
 - o Up to 3 courses (9 credits) can be from non-MAE courses approved by your advisor
- 700-level courses: If you joined our program in Fall 2016 or later, you must take at least two 700-level courses
- Research Credits: You must have a minimum of 33 credits of MAE 895
- Total Credits required is 72

Transfer Credit: PhD students who have attained a master's degree are eligible to receive credit toward the completion of the MAE PhD degree. The respective credit hour allotments are outlined above. Since the credit hour allotment is considered transfer credit, it should be added to the Graduate Plan of Work as such. Graduate School policy regarding transfer credit is available [here](#) (*Section 3.1.E*).

Enrollment & Credit Hour Requirements

All students are required to maintain Full-Time Enrollment

- Full-Time Enrollment means you must take 9 to 15 credit hours per semester. The MAE Graduate Office recommends students take no more than 9 credit hours per semester.
- Students that are not registered full-time by Census Day (the 10th day of classes each semester) lose their eligibility for student loans, international students will be out of compliance with their visa requirements, and all students lose eligibility for the Graduate Student Support Plan (GSSP).
- Read more in the Graduate Handbook: [section 3.14b Requirements for Full/Half-Time Registration](#)

All students are required to maintain Continuous Enrollment

- Continuous Enrollment means there is no break in your enrollment/registration. Read more in the Graduate Handbook: [section 3.14a Requirements of Continuous Enrollment](#).
- It is possible to file a Leave of Absence for up to two (2) semesters during your academic career at NCSU.
- Failure to maintain continuous enrollment or request a leave of absence will result the termination of your graduate student status.

Generally, students are not expected to register for summer courses UNLESS they are scheduling their Final Exam (dissertation defense)

- Students scheduling the PhD Final Exam over the summer, including the summer-fall intersession, are required to register for at least one credit in the summer term in which you defend. Typically, defending graduate students will register for 1 credit of MAE 896 (Summer Dissertation Research) which is a 10-week summer session at a discounted price.
- Students completing the PhD Preliminary exam during the summer term are not required to register.

Enrollment guidelines for the final semester

- If you have completed all credit hour requirements for the PhD degree, including research credits and the Oral Preliminary Exam, you can register three (3) credit hours of MAE 899 (Doctoral Dissertation Preparation) to maintain full-time status.
- In certain cases, international students in their very last semester may file a Reduced Course Load form through OIS and register for just one (1) credit hour. Please see the MAE Graduate Office if you feel this applies to you. If you are eligible, this request must be made before the first day of classes of the requested semester.

Full-time Academic Load Waiver

Upon successful completion of 69 credit hours toward the degree, all PhD students will automatically receive a 3-credit hour full-time academic load waiver. This means, the student will automatically be considered a full-time student when enrolled in just 3 credit hours. Once this waiver has been activated it will remain active through the completion of the PhD program.

Graduate Plan of Work & Advisory Committee

Graduate Plan of Work

The Graduate Plan of Work (GPoW) is a document that serves as a guide to successful degree completion. The GPoW should only include the minimum credit hour and course requirements specific to your degree. This plan serves to reduce the potential for misunderstandings about degree requirements and outlines the expected academic progress students should make during their academic career. Consider the GPoW as a “living document” that can be reset and updated as students continue to develop and refine their academic programs.

Access your GPoW in MyPack Portal by navigating to Student Homepage > Planning and Enrollment tile > Graduate Plan of Work.

Advisory Committee

The primary function of the committee is to advise a student in all aspects of the educational program, in addition to monitor and evaluate progress toward the completion of the degree. Thus, the committee must be active throughout a student’s program, beginning with helping students prepare the Graduate Plan of Work. The committee should provide an intellectually stimulating foundation for the student’s professional and scholarly development, and should be sensitive to any difficulties in the student’s progress. The committee certifies whether the student has met NC State’s standards for a graduate degree. Advising and guiding the student on how best to fulfill the degree requirements is a critical element of this responsibility. Changes to an approved committee can only be made by formal request to the Graduate School.

Access your GPoW in MyPack Portal by navigating to Student Homepage > Planning and Enrollment tile > Graduate Plan of Work > *Committee* tab.

Timeline for Creating the Graduate Plan of Work

Semester 1: create & save your Graduate Plan of Work in your MyPack Portal

- You cannot submit your GPoW for approval without designating your committee members first.
- Search for your Faculty Advisor.

Semester 2: submit your Graduate Plan of Work for approval

- Identify your faculty advisor and consult with them about building your advisory committee.
- You **MUST** submit your GPoW by the end of the second semester you are enrolled.
- To add transfer credits to your plan, simply select the option to add courses from transfer credit. Once added retitle the line “*Transfer Credit from Completed Master’s*”, and then record the number of credits in the space provided.

Continuously: review & save your Graduate Plan of Work

- The review and modification process can be done continuously, especially if the classes you take do not match your original Graduate Plan of Work.
- We recommend reviewing your Graduate Plan of Work with your advisor at least once a year.
 - If revisions need to be made to your approved GPoW, contact the MAE Graduate Office to have your plan reset so adjustments can be made. An advisory committee cannot be modified once the preliminary exam is completed.

Second-to-last Semester: review the Graduate Plan of Work for accuracy

- Make sure your GPoW is approved (and accurate) prior to scheduling the Final Exam.

Graduate Plan of Work & Advisory Committee (continued)

Building Your Committee

The PhD Advisory Committee is comprised of at least 4 people:

PhD Advisory Committee Students without a minor	PhD Advisory Committee Students with a minor
1 - Chair 3 - Members one of these Members must be an 'Outside Rep'	1 - Chair 2 - Members 1 - Minor Rep 1 - Graduate School Representative (GSR) to serve as the 'Outside Rep'
4 People Total (min.)	5 People Total (min.)

The Committee Chair is your Faculty Advisor, while the Members should be graduate faculty members at NCSU. An Outside Representative is required on all PhD advisory committees. A non-MAE graduate faculty member can fulfill the role of the 'Outside Rep', while the 'GSR' role fulfills the role of the Outside Representative for PhD students with a designated minor. Consult with your Faculty Advisor about locating a non-MAE graduate faculty member to serve as your Outside Rep or GSR. If you are unable to find a GSR the Graduate School will assist you with locating one prior to approving your prelim exam request form.

Note: Interinstitutional members, committee members representing your minor, and your Committee Chair/Co-Chair are roles that cannot not serve as a GSR. Advisory Committee requirements and guidelines are outlined in the Graduate Handbook ([section 3.2 Advisory Committee](#)).

The Graduate Plan of Work Approval Process:

- 1) Submit your GPoW for approval in MyPack Portal.
 - Advisory committee roles must be assigned before completing this step
- 2) Committee approval: each committee member is required to review and approve your GPoW.
 - Each member accepts their role on your committee when completing this step also.
- 3) Departmental approval: the director of graduate programs (DGP) reviews the GPoW for approval.
- 4) Graduate School approval

Note: If at any time in the process your GPoW is denied, a comment will be made and your GPoW will be reset. Click the *Comments* tab of your GPoW to read comments regarding the required changes that should be made. Once the necessary changes have been made, you can resubmit your GPoW for approval again, and the approval process will start over (Committee approval, DGP approval, then Graduate School approval).

How/Why to Request to Reset Your Graduate Plan of Work

Since a student's course plan can change throughout their graduate program, the GPoW can be reset throughout your program. Simply email mae_gradoffice@ncsu.edu to make your request, and the MAE Graduate Office can assist you. Once reset, you will have to opportunity to edit your course list on your GPoW– resubmitting it for approval once all the necessary changes have made.

The PhD Preliminary Examination

The Preliminary Exam is a Graduate School requirement and can be scheduled once you have successfully completed all graded courses for your degree. This exam can be taken as early as the fourth (4th) semester you are enrolled, but absolutely MUST be completed by the end of your second-to-last semester you are enrolled.

This examination has two parts: a written examination and an oral examination.

- i. Written Prelim – The written prelim exam will take the form of a Dissertation Proposal. The proposal must be 5-6 pages in length and contain the following information:
 - Motivation
 - Methodology
 - Research Objectives
 - Proposed Work
 - Timeline
 - References

For sample dissertation proposals, visit the [MAE Graduate FAQ Page](#) (*Thesis/Dissertation Examinations* section)

- ii. Oral Prelim – Upon successful completion of the written prelim students can proceed with requesting to schedule the oral prelim exam. The oral prelim exam generally includes a presentation of the dissertation proposal by the candidate, questioning of the candidate, and a period of deliberation and discussion.

Scheduling the Oral Preliminary Exam

Step 1) Verify your Graduate Plan of Work is approved prior to scheduling your Preliminary Exam.

Step 2) Consult your advisory committee to coordinate a date and time to perform the Oral Preliminary Exam.

Step 3) Email your Dissertation Proposal **and** the Oral Prelim [Exam Request Form](#) to the MAE Graduate Office.

- Your Dissertation Proposal will be added to your student file, and the Director of Graduate Programs will sign the Prelim Exam Request form before forwarding it to the Graduate School for final approval.
- Contact the receptionist in the MAE Front Office to reserve a room for your exam– if one is needed.

Step 4) Prepare for the Oral Prelim Exam

- The Chair of your advisor committee will be provided additional instructions and required materials for the exam.

NOTE: It can be very difficult to coordinate an exam time that works for all committee members. Planning your exam day and time in advance can help ensure all committee members are present and prevent any delays in your exam completion timeline.

The PhD Final Examination (Final Defense)

The PhD Final Oral Exam is a Graduate School requirement, and must be completed at least one semester (4 months) after the preliminary exam. The dissertation is an original contribution to the literature in the field of mechanical engineering or aerospace engineering. The final oral defense is the examination of the methodology used and the conclusions reached in the research performed by the candidate, as reported in the dissertation.

Important: Your entire Advisory Committee attends the Prelim Exam and the Final Exam. The advisory committee cannot be modified once the Prelim Exam has been completed.

Scheduling the Final Exam (Final Defense)

Step 1) Request to schedule your Final Exam – this exam must be taken at least one semester (4 months) after the preliminary exam and before the ETD Review Deadline you have chosen.

- Complete the Graduate School's [Schedule Oral Prelim/Final](#) exam request form and email it to the MAE Graduate Office at least 10 business days prior to the proposed exam date.
- Contact the receptionist in the MAE Main Office to reserve a conference room for your exam, if one is needed.
- Email the exam request form to the MAE Graduate Office for departmental approval.
 - The MAE Graduate Office will have the Director of Graduate Programs sign the request form before forwarding it to the Graduate School for final approval. The Graduate School must receive your exam at least 10 business days prior to your proposed exam date.

Step 2) Apply to Graduate for your PhD by the ETD Apply to Graduate Deadline, if you have not done so already

Step 3) Upon Receiving an “Unconditional Pass” on the Final Exam...

- Submit your first draft to the [Electronic Thesis Dissertation \(ETD\)](#) website immediately following the exam.
- The ETD will review your dissertation and inform you of any formatting corrections that should be made.
- Upon completing the recommended formatting corrections, submit your final dissertation to the ETD by the Final Error Free ETD Deadline.

Step 4) Keep an eye on your email for important information from the Graduate School, the MAE Graduate Office, or your advisor.

- You may still have important deadlines to meet with regards to graduation and officially finishing your degree. Important deadlines and information will be emailed to you by the Graduate Office, but the Graduate School and/or your advisor may have more information as well.

Electronic Theses and Dissertations (ETD) Information

The Graduate School requires all PhD students to use the ETD, and requires you to follow all ETD deadlines. These deadlines are very strict– the Graduate School does not make exceptions if these deadlines are missed. It is the student’s responsibility to be aware of (and meet) [ETD deadlines](#). **Every PhD student completing a dissertation has 3 ETD deadlines to meet in sequential order:**

- 1) **ETD Review Deadline** – all students must unconditionally pass the final exam and submit for the ETD Review by this deadline. Students who meet this deadline will not be allowed to register in the same academic program for any subsequent semester. The final ETD file is to be submitted before the Final ETD Approval Deadline and committee approval must be completed by the Final ETD Committee Approval Deadline. You may choose between:
 - a. No Registration Required Deadline – meet this date in order to avoid registering for the semester in which you are graduating
 - b. Registration Required Deadline – meet this date if you are/will be registered for the semester in which you are graduating
- 2) **Final Error-Free ETD Deadline** – applies to both “No Registration Required” and “Registration Required” students. Date by which a thesis or dissertation student who met that semester’s review deadline (either the No Registration or Registration Required), must submit the final error-free ETD to the ETD Reviewer in order to graduate at the end of the semester. Graduation will still be contingent upon approval of the final ETD by the student’s advisory committee before the expiration of the Final ETD Committee Approval Deadline.
- 3) **Final Committee Approval Deadline** - applies to both “No Registration Required” and “Registration Required” students. Date by which a thesis or dissertation student must submit and have the final ETD approved by all members of their advisory committee in order to graduate at the end of the semester.

IMPORTANT: In addition to the ETD deadlines, all PhD students must complete the [Doctoral Required Forms](#). Additional information can be found on the Graduate School’s [Electronic Thesis and Dissertations](#) website.

Applying to Graduate (MyPack Portal)

All students must Apply to Graduate in MyPack Portal during their final semester. You must apply to graduate to participate in commencement, have your degree conferred on the transcript, and receive your diploma.

- Apply to Graduate in MyPack Portal: **Student Homepage > Planning & Enrollment tile > Apply for Graduation**. Detailed instructions are available [here](#).
- We advise students to apply to graduate at the same time they schedule Final Exam

After applying to graduate your application will be reviewed/approved by the MAE graduate office, the College of Engineering Dean’s office, and the Graduate School. MAE graduate students that apply to graduate will be included on future correspondences regarding the MAE graduation ceremony.

Semester-by-Semester PhD Program Checklist

First Semester

- Create your Graduate Plan of Work and begin to consider who will be your faculty advisor.

Second Semester

- Identify your faculty advisor and review your GPoW with them.
- Consult with your faculty advisor to identify remaining members of your Advisory Committee.
- Submit GPoW for approval in MyPack Portal by the end of the 2nd semester.

Third and Fourth Semester

- Review your GPoW with your faculty advisor at least once.
- With Advisory Committee in place, PhD students can take their preliminary exam as early as their fourth semester (once all lecture courses are completed).

Fifth Semester (or second to last semester)

- Review ETD Deadlines for the term you intend to graduate.
- Complete written prelim examination then schedule the oral prelim exam.
- Complete the oral prelim exam before the end of 5th semester.
 - After receiving a Unconditional Pass, PhD students must wait 4 months to schedule their final exam.

Sixth Semester (or final semester)

- Apply to graduate in MyPack Portal.
- Schedule and perform the final exam— adhering to all applicable ETD deadlines.