

MAE Master's Program Student Guide

Hello Master's Students,

Included here is important information to help ensure you are meeting all of the requirements for the Mechanical and Aerospace Engineering master's degree program. Please review this information, and if you have any follow up questions please email the MAE Graduate Office at mae_gradoffice@ncsu.edu.

Quick Guide to Resource Links Included in This Guide

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

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

Graduate Student 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/>

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Master's Degree Requirements

MS (Non-thesis) Degree	
Minimum GPA	3.0
Graded Courses	27 credit hours * Up to 9 credit hours (3 courses) can be non-MAE courses approved by the MAE DGP
Independent Project	3 credit hours of MAE 586
Total Credits Required for Degree	30

MS (Thesis) Degree	
Minimum GPA	3.0
Graded Courses	21 credit hours * Up to 9 credit hours (3 courses) can be non-MAE courses approved by the MAE DGP
Research Credit	9 credit hours of MAE 695
Total Credits Required for Degree	30

Non-thesis Track vs. Thesis Track

Non-Thesis Track

Since the non-thesis track is more project-oriented, this program tends to attract students who plan to enter industry careers after graduation, but it is not limited to only those students.

Master's students who choose the non-thesis track will complete nine graded courses, in addition to completing MAE 586 – Project Work in Mechanical Engineering. MAE 586 is independent study and is typically completed during the final semester. Additional information about this course requirement is covered later in this guide.

There is no final defense for the non-thesis MS track. Although non-thesis students will work with a project advisor during their final semester, your faculty advisor throughout your MS degree program will be the MAE Director of Graduate Programs (DGP).

Thesis Track

As this track is more research-intensive it tends to attract students who plan to have a career in research or continue to a doctoral program.

Master's students who choose the thesis track will work with a faculty advisor to develop and deliver an oral defense of a thesis on a research topic. Thesis students are not assigned a faculty advisor. Instead, students must take the initiative to connect with a faculty advisor with shared interest during the first year enrolled in the graduate program. From there, thesis students work with the faculty advisor to build an advisory committee, of which will judge your final defense.

All thesis students must abide by Graduate School policies when forming their advisory committee and preparing for their defense. This includes following the guidelines and deadlines for the Electronic Thesis and Dissertation. The final defense is typically held during the final semester of coursework. This process is covered in more detail later in this guide.

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 Master's Oral Exam

- If you are scheduling the final defenses/exams over the summer, including the summer-fall intersession, you are required to register for at least one credit in the summer term in which you defend.
- Students defending in a summer term can register for 1 credit of MAE 696 (Summer Thesis Research), which is a 10-week summer session at a discounted price. If you have completed your research and you only need to prepare for your final defense, you also have the option to enroll in 1 credit hour of MAE699 (Master's Thesis Preparation).

Course enrollment for your final semester before graduating

Non-Thesis Students:

- Students are expected to enroll in three (3) credit hours of MAE 586 during their final semester to maintain full-time enrollment.
 - If you received an "incomplete" (IN grade) in MAE 586 and need to re-take it, enroll in three (3) credit hours of MAE 689 the following semester instead of re-enrolling in MAE 586. Visit the Graduate Handbook ([Section 3.17.G Incomplete Grades](#)) to review the Graduate School's policies and procedures regarding this matter.

Thesis Students:

- If you have completed all the credit hour requirements for the MS degree, including research credit, you can register for three (3) credit hours of MAE 699 to maintain full-time enrollment status.
- In certain cases international students in their very last semester may file a Reduced Course Load form through OIS to register for just one (1) credit hour. International students should contact the Office of International Services for additional information regarding the option for a reduced course load.

Full-time Academic Load waiver

Graduate students can receive a full-time academic load waiver as they near the end of their degree program. To receive this waiver a MS student must at least start their Graduate Plan of Work (GPoW) to activate this waiver. This means, all MS students should select their GPoW— choosing the thesis or non-thesis track, during their first semester. Starting your GPoW early will ensure your full-time enrollment waiver activates on time. Additional information regarding the GPoW is included in the next section of this guide.

The Graduate Plan of Work & Advisory Committee

Access the Graduate Plan of Work in MyPack Portal by navigating the path below:

Student Homepage > Planning and Enrollment tile > Graduate Plan of Work

When accessing the Graduate Plan of Work for the first time MS students must select the appropriate plan of work template before they begin. For example, see the image below:

Academic Plan	Description	Select
Mechanical Engineering-MS	Mechanical Engineering-MS	Select
Mechanical Engineering-MS	Mechanical Engineering-MS Non-Thesis	Select

Select a Plan of Work template to begin.

Failing to select the appropriate template will cause an error when submitting the graduate plan of work for approval. If this occurs, a student must contact the MAE Graduate Office to request to reset their plan of work and start over again.

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. It should be considered as a “living document” that can be reset and updated as students continue to develop and refine their academic programs.

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 students’ 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.

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

Who is on your “Committee”?

Before submitting the Graduate Plan of Work for approval, students must build their advisory committee. Click the *Committee* tab of your Plan of Work and follow the below instructions to build your committee:

Non-thesis track students: this advisory committee consists of one role/person – the Chair. The MAE Director of Graduate Program (DGP) is the Chair of the non-thesis MS advisory committee.

Thesis track students: this advisory committee must include three roles/people – a Chair, and two Members. The faculty advisor serves as the Chair of your committee, while MAE graduate faculty must fill the role of the remaining members. Visit the Advisory Committee section of the [Graduate Handbook](#) for an overview of this Graduate School policy. Thesis students work with their faculty advisor to identify the two remaining members of the committee. It is best to inform those members of your decision *before* submitting the GPoW for approval.

Timeline for Creating the Graduate Plan of Work

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

- Build the course plan of your GPoW, but do not submit it for approval yet.
- Thesis students: Identify your faculty advisor, and work with them to build the remainder of your advisory committee.

Semester 2: submit your Graduate Plan of Work for approval

- Build your advisory committee in MyPack Portal.
- Submit your GPoW for approval once your course plan is complete and the advisory committee is formed.

Continuously: review the Graduate Plan of Work

- The review and modification process can be done continuously, especially if the classes you take do not match your original Plan of Work.
- The MAE graduate office recommend students review their Plan of Work with their advisor at least once per year.

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

- This should be done prior to scheduling the Final Exam (thesis track) or when approved to enroll in MAE 586 (non-thesis track). The plan of work must accurately reflect the courses that were completed to obtain the MS degree.

Transfer Credit

Graduate level coursework that has not been previously applied toward another degree may be eligible to receive transfer credit toward the completion of the MAE MS degree (up to 12 credit hours). The Graduate School outlines their transfer credit policy in the Graduate Handbook ([Section 3.1.D Credit Hour Requirements for Master's Degree Degrees](#)). Students that would like to apply transfer credit toward the completion of their degree should complete the [Transfer Credit](#) form and email it to the MAE Graduate Office (mae_gradoffice@ncsu.edu) to initiate this process. The Graduate School will review the transfer credit request for approval after the plan of work is submitted for approval.

Accelerated Bachelor's/Master's (ABM) program Transfer Credit

Students enrolled in the MS program as part of ABM program are not required to complete/submit a transfer credit form for the double-counted courses completed during the undergraduate program. Instead, the approved ABM Plan of Work allows ABM students to bypass the transfer credit form and add the transfer credit to the Plan of Work. Simply select the option to add transfer credit to your course list, label it "ABM Plan of Work" (or something similar), and record the total number of credits that should be applied.

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.
- 3) Departmental approval: the director of graduate programs (DGP) reviews the GPoW for approval.
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, a student can request to reset the plan of work to edit their course plan as necessary. Simply email mae_gradoffice@ncsu.edu to make your request and the MAE Graduate Office can assist you.

Helpful Resource: [Student Information System Training Manual](#)

- Creating a Plan of Work (pg. 4)
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Preparing for The Master's Oral Exam (Thesis Track Students Only)

Students should read and follow the [Electronic Thesis and Dissertation](#) guidelines and deadlines set by the Graduate School. It takes time to finalize a GPoW and coordinate a convenient exam date/time with committee members. Do not wait until the last minute to complete these tasks and coordinate a meeting with your committee.

Step 1) Create your Graduate Plan of Work (GPoW)

- Create your GPoW course list in MyPack Portal - **Student Homepage > Planning and Enrollment tile > Graduate Plan of Work > Plan of Work tab**
 - We recommend that this be completed by the end of the second semester but MUST be done before scheduling the master's oral exam.
 - Plan of Work Guidelines:
 - Your GPoW should only include the minimum credit hour and course requirements specific to your degree.
 - No more than two 400-level course can be included on a GPoW to count toward a master's degree. This is a Graduate School policy, found [here \(section 3.1 Minimum Requirement\)](#).
- Create your [advisory committee](#) in MyPack Portal - **Student Homepage > Planning and Enrollment tile > Graduate Plan of Work > Committee tab**

Note: Committee members cannot accept member role until GPoW is submitted for approval.

- Thesis students should know who your Advisory Committee Chair (aka faculty advisor) is by the end of your second semester.
- Committee Guidelines:
 - Thesis track students must have a minimum of three (3) committee members– the Chair and two Member. Your Chair is also be your faculty advisor.

Step 2) Submit GPoW for approval

- A finalized Graduate Plan of Work must be approved to schedule a defense.

Step 3) Request to schedule your Master's Oral Exam (after GPoW has received final approval)

- Complete the Graduate School's [MS 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.
- This is also a good time **Apply to Graduate** in MyPack Portal.

Step 4) Defend

Step 5) "Unconditionally Pass" the MS Final Oral Exam (thesis defense)

- Submit your thesis to the Electronic Thesis Dissertation (ETD) database within 5 days after the exam (but absolutely before ETD defense deadline).

Step 6) Apply to Graduate before the given deadline

- This deadline is made available on the [ETD Deadlines](#) website.

Electronic Theses and Dissertations (ETD) Information

Thesis students are responsible for following Graduate School [ETD guidelines](#) and [ETD deadlines](#). **Every master's student completing a thesis 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.

Additional information about the Electronic Thesis and Dissertation process can be found on the Graduate School’s [Electronic Thesis and Dissertations](#) website.

Other Graduate School forms that *may* be required for your thesis defense

Advisory Committee Modification – A committee modification form is required if a student’s GPoW has been approved, but the final defense has not occurred yet. Visit the Graduate Handbook to read the Graduate School’s policy regarding [Advisory Committees](#). The committee modification form is located on the [Graduate School’s Forms](#) website (*General Committee Actions for Degree Seeking Students* section). This form must be approved prior to scheduling your oral exam.

Conduct Remote Oral exam – only Members on your committee can attend an oral exam remotely– the student and Chair cannot attend an exam remotely. Visit the Graduate Handbook to learn more about the Graduate Schools policy regarding [Format for Remote Oral Exams](#). The conduct Remote Oral Exam form is located on the [Graduate School’s Forms](#) website (*Master’s Form* section). This form should accompany your exam request form to schedule your oral exam.

Preparing for MAE 586 Independent Project (Non-thesis Track Students Only)

MAE 586 – Project work in Mechanical Engineering, is an independent project course with no formal lectures. Instead, students perform an analysis or experiment under the advisement of a project advisor.

During your second to last semester (or during the term 27 credit hours will be completed), students should identify a MAE faculty member to serve as their project advisor. The MAE Graduate Office recommends non-thesis students consult a MAE faculty member that shares your [research interest](#) and develop their own project idea. If necessary, the Director of the Graduate Program (DGP) can assist non-thesis students with securing a project advisor or will serve in that capacity (if necessary).

Project proposal and course enrollment

Non-thesis students cannot self-enroll in MAE 586. Instead, the MAE Graduate Office enrolls students in this course upon DGP approval. To initiate this process a student must prepare a one-page project that includes a description of the project and timeline of major tasks required to complete the project. Next, the project proposal must be approved by the project advisor before it is submitted to the DGP for departmental approval. Upon receiving departmental approval, the DGP authorizes the MAE Graduate Office to enroll a student in MAE 586.

Since the project proposal development process can take at least a week to be approved (at minimum), it is best for non-thesis students to begin developing their project proposal in the second-to-last semester, during the open enrollment period for the final semester. **Students should strive to complete these project proposal procedures and enroll in MAE 586 before the first day of their final semester.**

Applying to Graduate (MyPack Portal)

IMPORTANT: All students must Apply to Graduate in MyPack Portal during their final semester.

- A student must Apply to Graduate to participate in commencement, have their degree conferred on their transcript, and receive their diploma.
- Apply to Graduate in MyPack Portal: **Student Homepage > Planning & Enrollment tile > Apply for Graduation.** Detailed instructions are available [here](#).
- Many graduate students apply to graduate when scheduling their thesis defense, or upon enrolling in MAE 586. The graduate student Apply to Graduate deadline is available [here](#).

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 Graduate Program Checklist

MS Thesis Degree Completion Tasks

First Semester – or prior to completing 9 credit hours of coursework

- Create your Graduate Plan in Work in MyPack Portal– specifically the courses you plan to complete
- Start considering who will be your faculty advisor

Second Semester – or during the term 18 credit hours will be completed

- Identify your faculty advisor and review your course plan of your GPoW with them
- Consult with your faculty advisor about identifying remaining members of your advisory committee
- Submit GPoW for approval in MyPack Portal by the end of the 2nd semester

Third Semester – or during the term 27 credit hours will be completed

- Review the Electronic Thesis and Dissertation (ETD) process and deadlines
- Review the course plan of your GPoW for accuracy, and request to have your GPoW reset if the plan needs to be updated
- Resubmit your GPoW for approval by the end of the 3rd semester (if necessary)

Fourth Semester – or final semester

- Schedule and perform the final exam– adhering to all applicable ETD guidelines and deadlines
- Apply to Graduate in MyPack Portal
- Complete the MAE Graduation Survey

MS Non-thesis Degree Completion Tasks

First Semester – or prior to completing 9 credit hours of coursework

- Create your Graduate Plan in Work in MyPack Portal– specifically the courses you plan to complete
- Designate the MAE Director of Graduate Programs as the Chair of Advisory Committee.

Second Semester – or during the term 18 credit hours will be completed

- Begin to think about MAE 586 project idea
- Submit your GPoW for approval by the end of the 2nd semester

Third Semester – or during the term 27 credit hours will be completed

- Identify the MAE 586 project you will work on (faculty advisor):
 - Consult with a MAE faculty member to develop your own project idea
- Develop a Project Proposal- this must be approved by the project advisor and DGP before the end of the 3rd semester
- Review the course plan of your GPoW for accuracy, and request to have your GPoW reset if the plan needs to be updated

Fourth Semester – or final semester

- Complete MAE 586
- Apply to graduate in MyPack Portal
- Complete the MAE Graduation Survey