

MECH Graduate Student Handbook

Department of Mechanical Engineering
The University of Memphis

AY 2026–2027

Contents

Preface 3

Directory 4

Introduction and Degree Programs 5
- Master of Science in Mechanical Engineering . . . 6
  - General Requirements . . . 6
  - Thesis Option . . . 6
  - Non-Thesis Option . . . 6
  - Collateral Courses . . . 7
  - Summary of Continuous Enrollment Policy . . . 7
  - Transfer Credit Policy . . . 7
- PhD in Engineering with Concentration in Mechanical Engineering . . . 8
  - Course Requirements . . . 8
  - Collateral Courses . . . 8
  - Examination Requirements . . . 8
  - Retention Requirements . . . 9
  - Summary of Continuous Enrollment Policy . . . 9
  - Transfer Credit Policy . . . 9
  - Publications Expectations for PhD . . . 10

Examining Committee Formation 11
- Master's Students Committee Requirements . . . 11
- PhD Student Committee Requirements . . . 11

Examination Procedures 12
- Qualifying Exams Requirements . . . 13
  - Timing . . . 13
  - Structure of the Exam . . . 13
  - Grading Criteria . . . 13
- Comprehensive Exam . . . 14
  - Timing . . . 14
  - Examination Format . . . 14
  - Examining committee . . . 14
  - Key Emphasis Areas . . . 14
  - Assessment and Rubric . . . 14
  - Forms . . . 15
- Thesis/Dissertation Proposal . . . 16
  - Timing . . . 16
  - Examining committee . . . 16
  - Format . . . 16
  - Assessment and Rubric . . . 17
  - Forms . . . 17
- Final Thesis/Dissertation Defense . . . 18
  - Timing . . . 18
  - Examination Format . . . 18
  - Examining committee . . . 18
  - Assessment and Rubric . . . 19
  - Submission of the Thesis/Dissertation . . . 19
  - Forms . . . 20

Financial Support 21

Graduate research assistantships . . . 21
Graduate teaching assistantships . . . 21

Use of Generative AI Language Models **22**
Overall Guidance . . . 22
Guidance for Use of Generative AI in writing publications and theses/dissertations . . . 22
Declaration of generative AI and AI-assisted technologies in the writing process . . . 22

Checklist **23**
Master's (With Thesis) . . . 23
PhD . . . 25
Sample Semester-by-Semester Schedule . . . 27

Graduation Deadlines **28**

Registration **29**
Before Registration Opens . . . 29
Once Registration Opens . . . 29
Curricular Practical Training . . . 29
Important Considerations . . . 29
Eligibility Criteria . . . 29
Application Process . . . 30

Change of Status **30**

Important Links and Forms **31**
Graduate School Forms . . . 31
Graduation Forms . . . 31
Thesis/Dissertation Preparation . . . 31
Mechanical Engineering Forms . . . 31

Preface

Faculty members and staff of the Department of Mechanical Engineering wish you a rewarding experience in your graduate study and look forward to working with you during your enrollment here. All graduate students are responsible for understanding and following university and departmental policies. This graduate handbook outlines departmental requirements. University and Graduate School policies apply. See the graduate catalog for more information.

For assistance:

Daniel Foti
Associate Professor
Graduate Coordinator
Department of Mechanical Engineering
Engineering Science 318
Email: dvfoti@memphis.edu
Tel: 901-678-3297

Directory

	Name	Telephone	Email	Office
Chair				
	Dr. Ali Fatemi	901.678.2257	afatemi@memphis.edu	ES 312A
Undergraduate Coordinator				
	Dr. Jeffrey G. Marchetta	901.678.3141	jmarchtt@memphis.edu	ES 322C
Graduate Coordinator				
	Dr. Daniel Foti	901.678.3297	dvfoti@memphis.edu	ES 318
Department Administrative Assistant				
	Ms. Kesha Carrick	901.678.2173	kprtchr1@memphis.edu	ES 312
Graduate Faculty				
	Dr. Vipin Agarwal	901.678.3858	vipin.a@memphis.edu	ES 322A
	Dr. Yuan Gao	901.678.5014	ygao6@memphis.edu	ES 314
	Dr. Ranganathan Gopalakrishnan	901.678.2580	rgplkrsh@memphis.edu	ES 312B
	Dr. Yue Guan	901.678.5013	yguan1@memphis.edu	ES 310A
	Dr. Amir Hadadzadeh	901.678.2268	hddzadeh@memphis.edu	ES 310D
	Dr. Alexander Headley	N/A	jheadley@memphis.edu	ES 310B
	Dr. Seyed Hojjatzadeh	N/A	shjjtzdh@memphis.edu	ERIC 223G
	Dr. Yong Hoon Lee	901.678.5004	yhlee@memphis.edu	ES 322D
	Dr. Gladius Lewis	901.678.3266	glewis@memphis.edu	ES 316
	Dr. Okenwa Okoli	901.678.4306	ookoli@memphis.edu	EA 201D
Teaching Faculty				
	Dr. Kazi Mirza	N/A	kmmirza@memphis.edu	ES 317
Faculty Emeritus				
	Dr. John I. Hochstein	N/A	jhochste@memphis.edu	
	Dr. William Janna	N/A	wsjanna@memphis.edu	
	Dr. Edward Lin	N/A	hlin@memphis.edu	
	Dr. Richard Warder	N/A		

Introduction and Degree Programs

The purpose of this document is to provide an overview of the course and exam requirements for obtaining graduate degrees in mechanical engineering. Additional information regarding the graduate programs, including information for prospective students, can also be found on the Department of Mechanical Engineering website or the graduate catalog. The two graduate degrees offered in the Department of Mechanical Engineering are:

1. Master of Science in Mechanical Engineering
2. Ph.D. in Engineering with Concentration in Mechanical Engineering

Master of Science in Mechanical Engineering

The master's degree programs provide the opportunity for advanced study of Mechanical Engineering of current importance. There are two options: a thesis or non-thesis program.

Program objectives are the ability to:

1. Apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems
2. Meet or exceed the needs and expectations of public and private sector employers for MS graduates
3. Pursue additional advanced studies if so desired

General Requirements

- **Total credit hours:** 30 hours
- **Required Course:**
  - MECH 7340 – Engineering Analysis
- **GPA Requirement:** Maintain a 3.0 or higher. Falling below results in probation, and failure to improve leads to dismissal.
- **Transfer Credits:** Up to 12 credit hours from another institution may be approved, with documentation and approval required by the end of the second semester.
- **Progress Reporting**: Required each fall and spring

Thesis Option

- **Course Requirements:**
  - 6 hours of MECH 7996 – Thesis
  - 3 hours of MECH 7340
  - 21 remaining hours**:**
    - Up to **9 hours** of 6000-level MECH or approved collateral courses
    - Up to **3 hours** of 7000-level approved collateral courses
- **Thesis Requirement:**
  - Must complete a written Master's thesis proposal and seminar before an advisory committee at least four months before thesis defense
  - Must complete the comprehensive exam before an advisory committee.
  - Must complete and defend a Master's thesis before an advisory committee.
  - Students should follow the Thesis/Dissertation Preparation Guide.

Non-Thesis Option

- **Course Requirements:**
  - 3 hours of MECH 7340
  - 27 remaining hours, with:
    - Up to 9 hours of 6000-level MECH or approved collateral courses
    - Up to 3 hours of 7000-level approved collateral courses

    - Up to 3 hours of MECH 7992 – Research Project

Collateral Courses

- Must be in math, physical sciences, or another engineering discipline.
- Each course must have prior approval from the graduate coordinator

Summary of Continuous Enrollment Policy

Students working on theses, capstones, or other culminating experiences must enroll in at least 1 credit hour every fall and spring until completion. Summer enrollment is required if the work will be completed then. The only exception is when the major professor is unavailable, requiring approval from both the college director and the Graduate School Dean.

Students may request a leave of absence for serious medical or personal reasons, with documented justification and approvals from the program coordinator, college director, and Dean. Approved leaves do not count against time limits for program completion.

Students must be enrolled the semester of planned graduation.

Transfer Credit Policy

- Coursework must be a graduate course relevant to Mechanical Engineering.
- Courses must have at least 750 contact minutes per credit hour and only grades of "B" (3.0) or higher are eligible. Transfer grades are not included in the UofM GPA.
- Approval is granted on a case-by-case basis by the Advisory Committee and the Graduate Coordinator/Department Head. Syllabi of the courses are required to be submitted to the graduate coordinator.
- Up to 50% of the required hours for a master's, post-master's, or doctoral program may be transferred from an uncompleted degree or certificate.
- Thesis/dissertation credits cannot be transferred.
- Completed master's credits cannot be counted as transfer credit but up to 15 hours beyond the master's may be accepted.
- For more information, see the graduate catalog.

PhD in Engineering with Concentration in Mechanical Engineering

The Herff College of Engineering offers a program leading to the degree of Doctor of Philosophy (PhD) with a major in Engineering and concentration in mechanical engineering.

Program objectives are the ability to:

1. Apply advanced knowledge of mathematics, physical sciences, and engineering principles to the solution of practical engineering problems
2. Meet or exceed the needs and expectations of public and private sector employers for PhD graduates
3. Pursue additional advanced studies if so desired.

Course Requirements

- **Total Credit Hours:**
  - Post-Bachelors: 60 total
    - Minimum of 24 course credit hours
    - Remainder (Total - Course credits) of MECH 9000 dissertation credit hours
  - Post-Masters: 30 total
    - Minimum of 18 course credit hours
    - Remainder (Total - Course credits) of MECH 9000 dissertation credit hours
- **Required Courses**
  - MECH 8340 – Engineering Analysis
- No more than 15 hours of 6000 level courses may be applied to a doctoral degree.
- The dissertation committee for a student may require additional coursework beyond the minimum number of course credit hours.

Collateral Courses

- Must be in math, physical sciences, or another engineering discipline.
- Each course must have prior approval from the graduate coordinator

Examination Requirements

- **Qualifying Exam:**
  - Pass the three MECH 8000-level required and core courses with a B+ or higher
  - Must be completed by the end of the second academic semester.
  - Determines readiness for PhD candidacy.
- **Dissertation Proposal and Comprehensive Exams:**
  - A dissertation proposal (or prospectus) is developed under the guidance of the dissertation committee.
  - Propose a dissertation topic to your dissertation committee
  - Includes oral examination before being recommended for PhD candidacy
  - Can be administered separately, if necessary.
  - Must pass Comprehensive Exam to enroll in MECH 9000 dissertation hours

- **Final Dissertation Defense:**
  - The dissertation must represent a significant scholarly effort that culminates in an original contribution.
  - It should reflect the candidate's ability to conduct independent research and interpret in a logical manner the facts and phenomena revealed by the research.
  - Must complete and publicly defend a **dissertation** before your dissertation committee.
  - Students should follow the **Thesis/Dissertation Preparation Guide**.

Retention Requirements

- **Minimum GPA:** 3.0
  - If GPA drops below 3.00: 1 semester (or full summer term) to improve.
  - One-semester extension may be granted; failure to meet 3.0 results in dismissal.
- **Grades**: Accumulating more than 7 credit hours of "C+" or lower = dismissal.
- **Qualifying Exam**: Must pass
- **Comprehensive Exam**: Must pass
  - The student has two chances to pass the comprehensive exam before automatic termination from the doctoral program.
- **Progress Reporting**: Required each fall and spring

Summary of Continuous Enrollment Policy

Doctoral candidates must register for dissertation credit every fall and spring until the dissertation is completed. Summer enrollment is required if completion and defense are planned then. The only exception is when the major professor is unavailable, with approval from the college director and the Graduate School Dean.

Students facing serious personal or medical issues may request a documented leave of absence, subject to multiple levels of approval. Approved leave periods do not count against program time limits.

Students must be enrolled in the semester of planned graduation.

Transfer Credit Policy

- Coursework must be a graduate course relevant to Mechanical Engineering.
- Courses must have at least 750 contact minutes per credit hour and only grades of "B" (3.0) or higher are eligible. Transfer grades are not included in the UofM GPA.
- Approval is granted on a case-by-case basis by the Advisory Committee and the Graduate Coordinator/Department Head. Syllabi of the courses are required to be submitted to the graduate coordinator.
- Up to 6 credits of the required hours for a master's, post-master's, or doctoral program may be transferred from an uncompleted degree or certificate.
- Thesis/dissertation credits cannot be transferred.
- PhD students must complete their last 30 credit hours in residence
- Completed master's credits cannot be counted as transfer credit but up to 6 hours beyond the master's may be accepted.
- For more information, see the graduate catalog.

Publications Expectations for PhD

Publications in peer-reviewed journals are important outcomes that disseminate your research to the scientific community and the public. It is expected that PhD students produce manuscripts under the guidance of their major advisor. Specifically, it is expected that

- At least three publications are part of the final dissertation. It is strongly encouraged to have at least one accepted and another under review.
- The PhD student is the first author on the journal paper, showing that the student significantly contributed to the work
- All journals are selected with the consultation of the advisor.

Examining Committee Formation

An examining committee is the committee of faculty that will meet, advise, and oversee the thesis/dissertation proposal, defense, and final submission. The committee should be formed as soon as possible with the advice of the research advisor. A dissertation committee form must be submitted to the Graduate School and updated as needed. The intent is that the committee members remain unchanged throughout the student's graduate studies. Members can be added or removed, but require the approval of the research advisor and justification for changes.

- The examining committee must be formed within the first semester
- Registration will be prevented until committee is formed

Master's Students Committee Requirements

The Master's student will select a thesis committee (minimum of three members) made up of graduate faculty approved by the head of the academic unit and/or the college director. The chair of the thesis committee must hold full or associate graduate faculty status. Only one external graduate faculty member may serve as a voting member of a thesis committee. "External" refers to graduate faculty status given to faculty who are not faculty of the University of Memphis.

PhD Student Committee Requirements

PhD students must form a dissertation committee with at least four approved graduate faculty members. One member must be from outside the Department of Mechanical Engineering. One external (non-University of Memphis) faculty member may be included as a voting member, but does not count toward the four-member minimum. The chair must have full graduate faculty status. Students should consult their department before including University of Memphis faculty from outside their department.

Examination Procedures

Master's (with thesis) students in Mechanical Engineering must pass the following examinations:

- **Written thesis proposal and seminar defense**
- **Comprehensive examination** questioning that focuses on the research thesis and, optionally, on foundational topics in science and engineering related to the proposed thesis. This is taken during the thesis proposal defense
- **Final thesis defense**

Ph.D. students in Mechanical Engineering must pass the following examinations:

- **Qualifying examination** examination consists of passing three MECH 8000-level required and core courses with a B+ or higher within the first two academic semesters.
- **Comprehensive examination** is a presentation on the proposed research, followed by questioning that focuses on the research literature and, optionally, on foundational topics in science and engineering related to the proposed dissertation topic. This is taken before or during the dissertation proposal defense. This exam will be administered after the final semester of coursework.
- **Written dissertation proposal and seminar defense** is a written narative and presentation on the proposed research, followed by questioning that focuses on the research.
- **Final dissertation defense** is a written narative and presentation on the dissertation research, followed by questioning that focuses on the research.

Qualifying Exams Requirements

The qualifying examination is a critical milestone for Ph.D. candidates in Mechanical Engineering and must be completed by the end of the second academic semester. This examination is designed to evaluate the foundational knowledge of mechanical engineering principles necessary for progression in the doctoral program.

Timing

The Qualifying Exam must be taken by the end of the second academic semester.

Structure of the Exam

With the advice and guidance of the examining committee and advisor, the student will enroll in and pass with a B+ or higher three MECH 8000-level courses, including MECH 8340 Engineering Analysis.

Grading Criteria

The overall grading for the qualifying exams is Pass/Fail. Three MECH 8000-level courses, including Engineering Analysis, must be passed with a B+ or higher

Comprehensive Exam

The Comprehensive Exam is a vital assessment for graduate students, aiming to evaluate their understanding of the broad concepts and principles within their field of study in mechanical engineering.

Timing

The comprehensive exam is taken before or with the thesis/dissertation proposal seminar. This exam will be administered after the final semester of coursework. MECH 9000 dissertation hours can only be taken after passing this exam. Upon completion, the student's status is changed to late-stage doctoral.

Examination Format

There are two distinct components:

1. **Seminar and Oral Presentation**: Approximately 30-45 minute seminar on the thesis/dissertation proposal
2. **Additional Open Question Period**: The time is not to exceed a total of 60 minutes

Examining committee

Approved examination committee.

Key Emphasis Areas

The Comprehensive Exam assesses the following competencies:

- A profound understanding of the core concepts within the field
- The ability to synthesize knowledge across various topics
- Critical thinking and problem-solving capabilities
- Proficiency in effective communication
- The capacity to engage in rigorous academic discourse with faculty members.

Assessment and Rubric

There are three criteria by which you will be assessed:

1. Completeness and Breadth
2. Accuracy and Depth
3. Logic and Organization

Criteria	Beginner (1)	Intermediate (2)	Advanced (3)
I: Completeness and Breadth	Responses are brief and/or reveal a narrow knowledge of mathematics, science, and engineering/technology.	Responses reveal a satisfactory breadth in applying knowledge of mathematics, science, and engineering/technology.	Responses reveal the ability to apply a comprehensive knowledge of mathematics, science, and engineering/technology.
II: Accuracy and Depth	Responses are inaccurate and/or superficial.	Responses demonstrate depth of knowledge related to the problem but have deficiencies in analyzing or solving the problem.	Responses demonstrate depth of knowledge and the ability to analyze and solve broadly defined engineering and technical problems.
III: Logic and Organization	Responses are poorly organized and difficult to follow.	Responses contain all of the required elements but require effort to follow.	Responses are logical, well organized, and easy to follow.

The comprehensive examination is not a course; therefore the results of the examination can not be appealed, nor can they be changed after the form has been filed with the Graduate School. Students may take the examination a second time, however, a second failure results in termination, which can be appealed. The retention appeals process is formalized and must be followed in all cases. The result of the exam (positive or negative) must be communicated to the Graduate School on the Comprehensive Results Form within the same semester the exam was taken.

Forms

- Graduate School: Comprehensive Examination Results
- Herff/MECH: Assessment Rubric for Comprehensive Exams

Thesis/Dissertation Proposal

The thesis/dissertation proposal is a written research proposal prepared by each student that provides suitable motivation for the proposed master's/doctoral research, a summary of accomplishments, and a detailed research plan for the thesis research.

Timing

PhD students are encouraged to take this exam as soon as possible after passing the qualifying exams and within one semester of passing the comprehensive exams

Master's (with thesis) students are encouraged to take this exam as soon as possible and at least one year before planned graduation.

The proposal document must be submitted to the examining committee two weeks prior to proposal seminar.

Examining committee

Approved examination committee.

Format

Students must write the thesis/dissertation proposal independently, with input and editing support from their advisor(s), especially on objectives and methods. Plagiarism such as figures without citation, results in dismissal. Formatting rules include:

- Readable fonts (e.g., Times New Roman $\geq$11 pt, Arial/Calibri $\geq$10 pt).
- 1-inch margins on all sides.
- Figure captions may use different fonts.
- Adherence to page limits, line spacing, and format will be reviewed; proposals not compliant will delay the exam by a semester.

Content Requirements:

1. **Cover Page:** Title, student name, advisor(s), committee members, and submission date.
2. **Project Summary** (1 page, single-spaced): Self-contained overview with objectives, methods, scientific merit, feasibility, and relevance to the field.
3. **Project Description** (8–12 pages recommended)**:**
    - **Background & Motivation:** Literature review with context and significance. All figures must be cited.
    - **Objectives:** Brief statement of goals, significance, and relation to existing knowledge.
    - **Proposed Research:** Core section ($\geq$50% of total length) outlining methods, rationale, objectives alignment, expected outcomes, risk assessment, and contingency plans.
    - **Preliminary Results:** Summary of completed work and its relevance.
    - **Conclusion:** What new knowledge will result from the research.
4. **References:** Full bibliographic entries for cited works; no page limit; single-spaced with spacing between entries.

Assessment and Rubric

Criteria	Below Expectations	Meets Expectations	Above Expectations
Problem Definition	Problem is unclear, lacks motivation, or is not significant.	Problem is defined with some motivation; shows moderate significance.	Problem is clearly defined and well-motivated; demonstrates originality and significance.
Background and Literature Review	Incomplete or superficial review; limited understanding of the field.	Adequate review of relevant literature; shows general understanding.	Thorough review of relevant literature; demonstrates strong understanding of the field.
Research Objectives and Approach	Objectives are vague; approach is poorly defined or unjustified.	Objectives are generally clear; approach is reasonable.	Objectives are clear and achievable; approach is well-reasoned and justified.
Analysis and Results	Analysis is weak or flawed; results do not support conclusions.	Analysis is acceptable; results generally support conclusions.	Analysis is rigorous; results are well-interpreted and support conclusions.
Format and Organization	Document is poorly organized.	Document is adequately organized and logical.	Document is well organized and logical. Guides the reader through the chain of reasoning or progression of ideas.
Quality of Writing	Writing is unclear or contains frequent errors.	Writing is generally clear with minor errors.	Writing is clear, concise, and free of grammatical or typographical errors.

Forms

- Graduate School: Thesis/Dissertation Faculty Committee Appointment Form (prior)
- Graduate School: Thesis/Dissertation Proposal Defense Form
- Herff/MECH: Assessment Rubric for Thesis/ Dissertation Proposal/Final Defense Results.

Final Thesis/Dissertation Defense

After the completion of the thesis/dissertation and all other prescribed work for the degree, candidates will be given a final oral examination on the dissertation and its relation to Mechanical Engineering.

Timing

To be taken after the completion of the thesis/dissertation and all other degree requirements. Students must be enrolled in the semester during which they defend the dissertation.

All requirements for Master's degrees requiring up to 36 hrs must be completed in eight years. Grades earned in courses that are older than program time limits will be shown on the transcript and will be calculated in the cumulative GPA unless a request for expired course grade removal has been granted, but will not be accepted for graduation purposes unless validation has occurred or been waived as described in the Academic Regulations section of the Graduate Catalog.

Doctoral degrees must be earned within 12 consecutive years. All coursework must be completed within 10 years of the student's original admission to a doctoral program. The student may take a further two years of dissertation credit. Grades earned in courses that are older than program time limits will be shown on the transcript and will be calculated in the cumulative GPA unless a request for expired course grade removal has been granted, but will not be accepted for graduation purposes unless validation has occurred or been waived as described in the Academic Regulations section of the Graduate Catalog.

Final Thesis/Dissertation must be submitted to the examining committee two weeks before the final defense.

Examination Format

The final exam is an oral exam and is usually 120 minutes in duration. There are two parts:

1. The final oral presentation for the MS/Ph.D. degree is conducted as a public seminar (anyone can attend) and should focus on the presentation of the work described in the thesis/dissertation.
2. A closed session attended only by the student and the examining committee. The final examination question period focuses primarily on the dissertation research, but may include questions on related science and engineering competence related to the research.

Examining committee

Approved examination committee.

Assessment and Rubric

Criteria	Below Expectations	Meets Expectations	Above Expectations
Problem Definition	Problem is unclear, lacks motivation, or is not significant.	Problem is defined with some motivation; shows moderate significance.	Problem is clearly defined and well-motivated; demonstrates originality and significance.
Background and Literature Review	Incomplete or superficial review; limited understanding of the field.	Adequate review of relevant literature; shows general understanding.	Thorough review of relevant literature; demonstrates strong understanding of the field.
Research Objectives and Approach	Objectives are vague; approach is poorly defined or unjustified.	Objectives are generally clear; approach is reasonable.	Objectives are clear and achievable; approach is well-reasoned and justified.
Analysis and Results	Analysis is weak or flawed; results do not support conclusions.	Analysis is acceptable; results generally support conclusions.	Analysis is rigorous; results are well-interpreted and support conclusions.
Format and Organization	Document is poorly organized.	Document is adequately organized and logical.	Document is well organized and logical. Guides the reader through the chain of reasoning or progression of ideas.
Quality of Writing	Writing is unclear or contains frequent errors.	Writing is generally clear with minor errors.	Writing is clear, concise, and free of grammatical or typographical errors.

If the student's performance on this examination is satisfactory as judged unanimously by the committee, all requirements for the degree will have been completed. Students who unsuccessfully defend their dissertation will be assigned a "U" (unsatisfactory), at which time the termination process will be initiated.

Submission of the Thesis/Dissertation

The final draft of the dissertation must be approved by all members of the dissertation committee. After the successful defense, a copy of the defended and corrected dissertation must be converted into a PDF and submitted to ProQuest and the committee approval form submitted to the Graduate School. After the Graduate School has reviewed the final draft in ProQuest, the student must make all additional corrections. See the Graduate School Thesis/Dissertation Preparation Guide for instructions on how to upload the final document. https://www.memphis.edu/gradschool/current_students/td-prep.php

Required Sections

1. Preliminary Pages and Material:

- **Title Page**
- **Copyright Notice** *(optional)*
- **Dedication** *(optional)*
- **Acknowledgments** *(optional)*
- **Preface** *(optional)*
- **Abstract:** It must show the reader both the context and content of the work and must include the

purpose of the work, including any hypothesis to be tested or major question asked; the approach used; the main findings; and the conclusions.

- **Table of Contents**
- **List of Tables** *(required if 5 or more)*
- **List of Figures** *(required if 5 or more)*
- **Key to Symbols or Abbreviations** *(optional)*

1. **Main Body:** The main body of the dissertation should include the following components:

- **Introduction**: Clearly state the purpose or hypothesis, provide an overview of the problem or subject, and summarize the findings.
- **Literature Review**: Offer a comprehensive discussion that serves as a valuable reference for other scholars.
- **Statement of Research Objectives** *(if not included in the introduction)*: Detail specific objectives addressed by the research.
- **Body of the Work**: Include methods and materials, results, and discussion, especially pertinent in scientific disciplines.
- **Overall Conclusion** *(if not included in the discussion)*: Provide a brief restatement of conclusions presented in the body.
- **Bibliography or References**: List all cited references in a single, alphabetically ordered section before any appendices, unless specified otherwise by your discipline.
- **Appendices** *(if needed)*: Include supplementary material, ensuring it adheres to the same formatting rules as the main text

After the dissertation has been approved by the Graduation Analyst, the dissertation will be delivered to ProQuest electronically. The student will then complete the Survey of Earned Doctorates and send confirmation to the Graduation Analyst that the survey has been completed. The abstract will be published by ProQuest.

Forms

- Graduate School: Doctoral Degree and Master's Degree Candidacy Form (Prior)
- Graduate School: Thesis/Dissertation Proposal Defense Form (Immediately after defense)
- Graduate School: Thesis/Dissertation Checklist
- Graduate School: Final Committee Approval Form for ETD Submission
- Graduate School: Thesis/Dissertation Faculty Committee Appointment Form (Prior, if necessary)
- Herff/MECH: Assessment Rubric for Thesis/ Dissertation Proposal/Final Defense Results. (Immediately after defense)

Financial Support

The department offers opportunities for talented graduate students to be fully supported with competitive stipends, tuition waivers, and health benefits.

Stipend rates are set by the Herff College of Engineering. PhD students will receive an increase at the equivalent of a Master's degree (after 30 hours are complete) and again after all coursework and the comprehensive exam are complete.

Graduate research assistantships

Graduate research assistantships (RAs) are offered by individual faculty members through research funds (grants and contracts). These appointments normally occur through direct communication with the faculty member. The faculty member usually would serve as the student's research advisor. Appointments can vary based on the availability of funding, can be initiated at any time depending on the funding, and depend on the academic and research progress of the student. Teaching and Research Assistantships may be held concurrently, with the usual practice of half-time for each position. Stipend rates may vary depending on the funding availability, but must meet the minimum rates set by the Herff College of Engineering. Faculty member providing the funds for the RA can terminate the RA appointment in the event the funds are no longer available or for unsatisfactory performance. Only PhD students and Master's (with Thesis) students are eligible for RA funds.

Graduate teaching assistantships

Graduate teaching assistantships (TA) are funded through the department to assist in undergraduate instruction and are typically restricted to PhD students. They are offered with the strong endorsement of a faculty member who currently does not have sufficient research funds. The teaching assistantship is limited in duration until a research assistantship can be obtained. Teaching loads for a TA may vary between a full-time TA (20 hours/week) and a part-time TA ($<$ 20 hours/week). The number of classes assigned will depend on the enrollment, type of course (traditional instructional vs laboratory), and other factors. Assignments are made with the research interests of the TA in mind.

TA responsibilities vary with course assignments and may involve grading, recitation lectures, laboratory, homework problem solution, office hour consultation, or a mix of these duties. At the start of each semester, TAs will be assigned courses. It is the TA's responsibility to meet with the course instructor and complete the TA Expectation Form. The minimum expectations of a TA are the following:

1. Contact the Course Instructor within one week of receipt of the TA assignment.
2. Complete, sign, and date the first page of expectation form before the start of the TA assignment.
3. **Attend all class meetings** to learn more about successful teaching techniques and to make yourself available to students.
4. Assist with grading, which may include exams, quizzes, in-class assignments, papers, and other assignments.
5. Be available to students through weekly office hours
6. Hold review sessions (if applicable to the course)

At the end of the semester, the TA will be formally evaluated by the course instructor, and a survey will be provided to all students in the course to provide their feedback. Unsatisfactory TA performance may result in a prohibition from future TA assignments. The TA has the opportunity to provide feedback as well.

Use of Generative AI Language Models

The use of generative AI language models, such as ChatGPT, Microsoft Co-Pilot, etc, has expanded recently into all areas of society and research and is becoming widely available to anyone. These tools can be productive in the research environment and in preparing research manuscripts, theses, and dissertations. However, there are several challenges that are associated with generative AI tools. We are presenting these guidelines here, and they will evolve with the rapid changes in AI.

Overall Guidance

The purpose of your graduate education is to learn. One of the objectives of a graduate degree is to learn to think critically and become an independent researcher. Performing research and creating new knowledge involves the scientific method: formulating an idea or hypothesis, reviewing past literature, determining appropriate methods to test the hypothesis, collecting data, interpreting data, and drawing conclusions. AI can be a productive tool to assist with that, but the student is ultimately responsible for the research and must exhibit academic integrity. AI can have the unintended effect of disrupting the learning process. Students may not gain the learning skills through experiential learning and may produce results that do not hold up to scrutiny. While using AI, you should

1. Be systematic with prompts and skeptical of results.
2. Understand that biases are present in the data.
3. Be up-to-date on AI policies for publications and journals, for example, ASME.
4. Do not share confidential or proprietary information with AI tools

Guidance for Use of Generative AI in writing publications and theses/dissertations

Student users of AI are required to take full responsibility for their use of AI and any research that might result from the use of these tools. We have two distinct AI assistance methods for the use of AI in writing:

1. Editorial Assistance: Using an AI for grammar checking and editorial improvements is similar to having a person proofread a paper and generally does not require acknowledgment. We impose no barrier to employing these tools on existing human-written text.
2. Substantive Assistance: Using AI to write a portion of a dissertation or manuscript may constitute plagiarism based on the University of Memphis Office of Student Accountability policy.

'Committing plagiarism by presenting as one's own work, for academic evaluation or assignment, the ideas, representations, or works of another person or persons or oneself without customary and proper acknowledgment of sources;'

Declaration of generative AI and AI-assisted technologies in the writing process

If you used generative AI or AI-assisted technology, include the following statement directly before the references at the end of your manuscript

'During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.'

Checklist

Master's (With Thesis)

1. **Choose a research advisor** for the thesis soon after beginning study. The advisor must be a member of the Mechanical Engineering Graduate Faculty. Once an advisor has been chosen, notify the Graduate Program Manager as soon as possible, who will contact the advisor to confirm.
2. **Select the thesis defense committee members** in consultation with the research advisor and in accordance with the Graduate School Policy.
   - Complete Thesis/Dissertation Faculty Committee Appointment Form
3. **Schedule and complete thesis proposal defense and comprehensive exam:** Follow the format provided in the proposal defense section. The proposal document is to be submitted to the committee two weeks before the scheduled date of the seminar unless written approval from all committee members allows for a shorter duration.

   The thesis proposal will be defended in an oral exam and is usually 90 minutes in duration. The first part is a presentation of the Master's thesis proposal. The second part is the comprehensive exam, a closed session attended only by the student and the examining committee. Questions will focus on the research proposal, but may include questions on related science and engineering competence related to the research. The prepared formal oral presentation should be no more than 30-45 minutes in duration to allow time for questions and comments by the general audience, and then by the committee members.
   - Complete Thesis/Dissertation Proposal Defense Form
   - Complete Comprehensive Examination Results
   - Complete Herff/MECH Assessment Rubric for Thesis/ Dissertation Proposal/Final Defense Results.
   - Complete Herff/MECH: Assessment Rubric for Comprehensive Exam Results. (Immediately after defense)
4. **Complete coursework:** 24 credit hours of courses are required.
5. **Complete Thesis:** 6 hours of MECH 7996 Thesis credits are required.
6. **Apply for Graduation:** Students must ""Apply to Graduate" by the deadline available online for the term the thesis will be completed. See Registrar website for the deadline.
   - Complete Doctoral Degree and Master's Degree Candidacy Form
7. **Schedule Final Thesis Defense:** Follow the university thesis format guidelines. The final thesis is to be submitted to the committee two weeks before the scheduled date unless written approval from all committee members allows for a shorter duration. It is the student's responsibility to reserve a room and prepare the announcement of the defense. Send an email for thesis **defense announcement** with thesis title, abstract, defense date, and location to the Department of Mechanical Engineering Administrative Assistant at least one week before the defense.

   The final exam is an oral exam and is usually 120 minutes in duration. The first part, the final oral presentation for the Master's degree, is conducted as a public seminar (anyone can attend) and should focus on the presentation of the work described in the thesis. The second portion is a closed session attended only by the student and the examining committee. The session is a question period that focuses primarily on the thesis research but may include questions on related science and engineering competence related to the research. The final presentation should be well-prepared and succinct. The prepared formal oral presentation should be no more than 45 minutes in duration to allow time for questions and comments by the general audience, and then by the committee members.

- Complete Thesis/Dissertation Proposal Defense Form (Immediately after defense)
- Complete Herff/MECH: Assessment Rubric for Thesis/ Dissertation Proposal/Final Defense Results. (Immediately after defense)

8. **Submit Final Thesis:** Follow the university thesis format guidelines. Final thesis must be approved by committee members.
   - Complete Thesis/Dissertation Checklist
   - Complete Final Committee Approval Form for ETD Submission
9. **Final Checkout:** Return all keys, supplies, and equipment.

Full-time Master's students are expected to graduate within 2 years. All Master's students need to complete their degrees within 8 years of admission.

PhD

1. **Choose a research advisor** for the dissertation soon after beginning study. The advisor must be a member of the Mechanical Engineering Graduate Faculty. Once an advisor has been chosen, notify the Graduate Program Manager as soon as possible, who will contact the advisor to confirm.
2. **Select the dissertation defense committee members** in consultation with the research advisor and in accordance with the Graduate School policy.
   - Complete Thesis/Dissertation Faculty Committee Appointment Form
3. **Complete coursework:** Minimum of 18 credit hours of courses are required with a prior Master's degree. Miniumum of 24 credit hours of courses are required without a prior Master's degree.
4. **Compelete Qualifying Exams**: Completed by passing three MECH required and core classes with B+ or higher.
5. **Schedule and complete dissertation proposal defense and comprehensive exam:** Follow the format provided in the proposal defense section. The proposal document is to be submitted to the committee two weeks before the scheduled date of the comprehensive exam unless written approval from all committee members allows for a shorter duration.

   The dissertation proposal will be defended in an oral exam and is usually 90 minutes in duration. The first part is a presentation of the dissertation proposal. The second portion is the comprehensive exam, a closed session attended only by the student and the examining committee. The comprehensive examination question period focuses primarily on the dissertation research but may include questions on related science and engineering competence related to the research. The final presentation should be well-prepared and succinct. The prepared formal oral presentation should be no more than 30-45 minutes in duration to allow time for questions and comments by the general audience, and then by the committee members.

   Successfully passing the comprehensive exam elevates the student to a late-stage PhD Candidate. Dissertation Hours can now be taken.

   - Complete Comprehensive Examination Results
   - Complete Thesis/Dissertation Proposal Defense Form
   - Complete Herff/MECH Assessment Rubric for Thesis/ Dissertation Proposal/Final Defense Results.
   - Complete Herff/MECH: Assessment Rubric for Comprehensive Exam Results. (Immediately after the defense)
6. **Complete Dissertation Hours:** A total of the 30 hours are required with a prior Master's degree and a total of 60 hours are equired without a prior Master's degree. Complete hours as efficiently as possible. Once hours are completed, you can register for 1 MECH 9000 credit hour a semester
7. **Complete dissertation research:** Submit manuscripts for peer review, attend national and international conferences to present research work, and continue to gain knowledge in the chosen research area. Meet with the advisor(s) regularly and decide upon the information that will go into the dissertation.
8. **Apply for Graduation:** Students must "Apply to Graduate" by the deadline available online for the term the dissertation will be completed. See Registrar website for the deadline.
   - Complete Doctoral Degree and Master's Degree Candidacy Form
9. **Schedule Final Dissertation Defense:** Follow the university dissertation format guidelines. The final dissertation is to be submitted to the committee two weeks before the scheduled date unless written approval from all committee members allows for a shorter duration.

The final exam is an oral exam and is usually 120 minutes in duration. The first part, the final oral presentation for the Ph.D. degree, is conducted as a public seminar (anyone can attend) and should focus on the presentation of the work described in the dissertation. The second portion is a closed session attended only by the student and the examining committee. The final examination question period focuses primarily on the dissertation research, but may include questions on related science and engineering competence related to the research. The final presentation should be well-prepared and succinct. The prepared formal oral presentation should be no more than 45 minutes in duration to allow time for questions and comments by the general audience, and then by the committee members.

It is the student's responsibility to reserve the room and prepare the defense announcement. Send an email for the dissertation **defense announcement** with title, abstract, defense date, and location to the Department of Mechanical Engineering Administrative Assistant at least one week before the defense.

- Complete Thesis/Dissertation Proposal Defense Form (Immediately after defense)
- Complete Herff/MECH: Assessment Rubric for Thesis/ Dissertation Proposal/Final Defense Results. (Immediately after the defense)

10. **Submit Final Dissertation:** Follow the university thesis format guidelines. The final dissertation must be approved by committee members. Submit electronically to the graduate school.
    - Complete Thesis/Dissertation Checklist
    - Complete Final Committee Approval Form for ETD Submission
11. **Final Checkout:** Return all keys, supplies, and equipment. Finally, please provide the Department with the next employment position and contact information. The department is extremely proud of its PhD alumni and will want to remain in contact with them throughout their careers.

Full-time PhD students are expected to graduate within 5 years. All PhD students must complete their degrees within 12 consecutive years of admission.

Sample Semester-by-Semester Schedule

Student with Prior MS

1. **Semester 1**
   - MECH 8340
   - Course 2
   - Course 3
2. **Semester 2**
   - Course 4
   - Course 5
   - Course 6
3. Completed Qualify Exam
4. Complete Comprehensive Exam
5. **Semester 3**: MECH 9000 – 9 hrs
6. Complete Proposal Defense
7. **Semester 4**: MECH 9000 – 9 hrs
8. **Semester 5**: MECH 9000 – 3 hrs
9. **Semester 6**: MECH 9000 – 3 hrs
10. Complete Dissertation Defense and Graduate

Student with Prior BS

1. **Semester 1**
   - MECH 8340
   - Course 2
   - Course 3
2. **Semester 2**
   - Course 4
   - Course 5
   - Course 6
3. Completed Qualify Exam
4. Complete Comprehensive Exam
5. **Semester 3**
   - Course 7
   - Course 8
   - MECH 9000 – 3 hrs
6. Complete Proposal Defense
7. **Semester 4**: MECH 9000 – 9 hrs
8. **Semester 5**: MECH 9000 – 9 hrs
9. **Semester 6**: MECH 9000 – 9 hrs
10. **Semester 7**: MECH 9000 – 3 hrs
11. **Semester 8**: MECH 9000 – 3 hrs
12. Complete Dissertation Defense and Graduate

Notes:

- Total number of course required above the minimum is at the descretion of the advisor.
- Comprehensive Exam must be passed before enrolling in MECH 9000
- Proposal defense must be take within one semester of the Comprehensive Exam. It is preferred that they are taken together.

Graduation Deadlines

Below are the deadlines for each step of graduation for AY26-27:

Term	Apply	Candidacy	ProQuest	Comp. Exam	Commencement
Fall 2026	Sept. 4, 2026	Sept. 4, 2026	Oct. 30, 2026	Dec. 4, 2026	Dec. 12, 2026
Spring 2027	Feb. 5, 2027	Feb. 5, 2027	Mar. 26, 2027	May 3, 2027	May 8, 2027
Summer 2027	May 28, 2027	May 28, 2027	July 2, 2027	July 23, 2027	No ceremony

Visit the Graduation Information page for specific information.

Registration

Before Registration Opens

1. **Check Registration Dates**: Consult the Dates & Deadlines calendar to determine your registration window.
2. **Review Course Offerings**: Log in to the myMemphis portal, navigate to the "Registration and Records" tile, and use the "Look Up Classes" feature.
3. **Verify Registration Status**:
   - **Holds**: Ensure there are no registration holds on your account. Immunization and financial responsibility holds can be addressed at sa.memphis.edu. For other holds, contact the issuing office.
   - **Registration Notices**: If you encounter messages like "no registration time ticket" or "status prevents registration," you may need to apply for admission or readmission.
4. **Meet with Your Advisor**: Degree-seeking students must obtain clearance from their advisor to register.
5. **Complete MECH Degree Progress Form:** Fillout form, route to advisor and graduate coordinator. This step removes the "Alternate PIN" block.
6. **Complete MECH Course Permit Form** to obtain permit for MECH course

Once Registration Opens

1. **Register Online**: Access the myMemphis portal, go to the "Registration and Records" tile, and select "Register for Classes."
2. **Permit Required**: If permit is required, complete MECH Permit Form.
3. **Seek Assistance if Needed**: If you encounter issues during registration, refer to the Registration Quick Guide or contact the Registrar's Office for support.

For detailed information and resources, visit the Register for Classes page on the University of Memphis website.

Curricular Practical Training

Curricular Practical Training (CPT) is a temporary employment authorization for F-1 students, allowing them to engage in off-campus work directly related to mechanical engineering during their studies.

Important Considerations

- CPT is employer-specific and date-specific; unauthorized employment or working beyond authorized dates violates F-1 regulations and may lead to termination of status.
- CPT can be part-time (20 hours or less per week) or full-time (more than 20 hours per week). Accumulating 12 months of full-time CPT eliminates eligibility for Post-Completion Optional Practical Training (OPT).
- Employment can be paid or unpaid.

Eligibility Criteria

- Complete at least one academic year (two full semesters) of full-time enrollment.

- **Register for MECH 7990/8990 Engineering Practicum or MECH 9000 Dissertation**. Employment must be integral to the curriculum and directly related to the student's major.
- Obtain a recommendation from research advisor.
- Secure approval from International Student Services (ISS) and receive an updated I-20 reflecting CPT authorization.
- Students are not allowed to hold a paid TA or RA position while in CPT status.

Application Process

1. **Secure a Job Offer**: Obtain a job offer letter on company letterhead, including employer name, address, job duties, start and end dates, weekly hours, and employer's signature
2. **Apply for CPT:** Submit the CPT Application form to ISS, including the job offer letter and contact information for the recommending faculty member. Allow 7–10 business days for processing.
3. **Receive CPT Authorization:** Once approved, ISS will provide a new I-20 with CPT authorization. Employment may begin only after the start date indicated on the I-20.
4. **Extend or Reapply if Necessary:** To extend CPT or work with a different employer, submit a new application following the same procedures.

For detailed information and to access the CPT Application form, visit the University of Memphis CPT page.

Change of Status

Please contact the graduate coordinator if you need to

1. **Adding the Master's degree** to your current PhD program so that you can pursue the Master's while also pursuing your PhD.
2. **Adding PhD:** A student has completed Master's. and interested in pursuing a Ph.D. This particular change of status requires submission of documents similar to a new graduate application and is only considered upon recommendation by a faculty member of the MECH graduate program expressing interest in advising the student.
3. **Readmission to Graduate School:** Students who have previously enrolled in a graduate program and are no longer active must apply for readmission. Graduate School Forms

Important Links and Forms

Below are listings of important links for current graduate students and required forms.

Graduate School Forms

All graduate school forms can be found on the Graduate School website.

Graduation Forms

- Instructions on how to Apply to Graduate - Application on the MyMemphis portal
- Doctoral Degree and Master's Degree Candidacy Form
- Thesis/Dissertation Faculty Committee Appointment Form
- Comprehensive Examination Results
- Thesis/Dissertation Proposal Defense Form
- Thesis/Dissertation Final Defense Results Form
- Thesis/Dissertation Checklist
- Final Committee Approval Form for ETD Submission
- ProQuest Dissertation Publishing Agreement Form
- Transfer Credit Evaluation - For Doctoral Degree Programs Only
- Transfer Credit Evaluation - For Master's Degree Programs Only

Thesis/Dissertation Preparation

- Thesis/Dissertation Preparation Guide
- Thesis/Dissertation Checklist
- Example title page.
- Example table of contents.
- Example list of tables page
- Latex Thesis/Dissertation Template – Courtesy of Dr. Lee

Mechanical Engineering Forms

- MECH Degree Progress Form
- MECH Course Permit Form
- Assessment Rubric for Thesis/Dissertation Proposal/Final Defense Results
- Assessment Rubric for Comprehensive Exam Results