

Graduate Student Handbook - MS and PhD Programs in Mechanical Engineering

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Disclaimer

The purpose of this handbook is to provide graduate students in the Department of Mechanical Engineering with a consolidated source of information and guidance as they pursue the Master of Science (MS) or Doctor of Philosophy (PhD) degree.

This handbook is advisory in nature and supplements, but does not supersede, the University of Wyoming Graduate Student Regulations and Policies, the UW Graduate Catalog, or School of Graduate Education requirements. University, College, and Graduate School policies may change, and students are responsible for remaining informed of current requirements.

How to Use This Handbook

This handbook is intended to help Mechanical Engineering graduate students navigate their program from admission through graduation. It summarizes departmental expectations, degree requirements, timelines, and common procedures, while directing students to official University of Wyoming offices for authoritative policy guidance. Students should use this handbook alongside regular communication with their faculty advisor and graduate committee.

1. Mission and Goals

Graduate education in the Department of Mechanical Engineering is central to the department's research, teaching, and service missions. The department is committed to providing a rigorous graduate education that prepares students for professional practice, research leadership, and academic careers.

Goals for the MS Program

- Provide advanced technical training in Mechanical Engineering.
- Prepare students for professional engineering practice or further doctoral study.
- Develop analytical, problem-solving, and communication skills.

Goals for the PhD Program

- Prepare students to conduct original, independent research.
- Develop leadership in research and innovation.
- Prepare graduates for careers in academia, industry, and national laboratories.

2. Applying to the Graduate Program

The Department of Mechanical Engineering offers graduate study leading to the Master of Science (MS) and Doctor of Philosophy (PhD) degrees. Applications are submitted through the University of Wyoming Office of Admissions, which manages the graduate application process.

Apply online at:

<https://www.uwyo.edu/admissions/apply.html>

At the time of the online application, only unofficial documents are required. Official documents are requested after admission.

2.1 Application Materials

- Unofficial transcripts from all post-secondary institutions
- Statement of Purpose
- Resume or curriculum vitae (CV)
- Letters of recommendation submitted electronically
- Unofficial English proficiency scores, if required for international applicants

Prospective students are strongly encouraged to contact potential faculty advisors prior to submitting an application.

2.2 Admission Requirements — MS in Mechanical Engineering

- Applicants should possess a Bachelor of Science (B.S.) degree or equivalent in Mechanical Engineering with a minimum cumulative GPA of 3.000 on a 4.000 scale (or equivalent).
- Students who do not hold a B.S. in Mechanical Engineering may qualify for admission by completing, without graduate credit, prerequisite coursework as specified by the Department.

- A minimum composite score of 294 on the Verbal and Quantitative sections of the GRE is required.
- For international applicants, a minimum TOEFL score of 90 on the Internet-based test (iBT), or a minimum IELTS score of 6.5, or a minimum Duolingo score of 110 is required.
- Students currently enrolled in the University of Wyoming B.S. in Mechanical Engineering program may be eligible for the Quick Start B.S./M.S. program, which allows completion of the B.S. and M.S. degrees in five years.

2.3 Admission Requirements — PhD in Mechanical Engineering

- Applicants should possess a Bachelor of Science (B.S.) degree or equivalent in Mechanical Engineering with a minimum cumulative GPA of 3.000 on a 4.000 scale (or equivalent).
- Students who do not hold a B.S. in Mechanical Engineering may qualify for admission by completing, without graduate credit, prerequisite coursework as specified by the Department.
- A minimum composite score of 307 on the Verbal and Quantitative sections of the GRE is required.
- For international applicants, a minimum TOEFL score of 90 on the Internet-based test (iBT), or a minimum IELTS score of 6.5, or a minimum Duolingo score of 110 is required.

Prospective PhD students are strongly encouraged to contact potential faculty advisors prior to submitting an application.

2.4 Deadlines and Funding Consideration

Applications are welcome all year but to be considered for teaching assistantships, applications must be submitted before March 15 for the fall semester or October 15 for the spring semester. Admission to the program does not guarantee financial support.

2.5 After Admission

After admission, students must submit official transcripts and any required documentation to the University of Wyoming Office of Admissions.

3. Orientation and Onboarding for New Graduate Students

All new graduate students are expected to complete the University of Wyoming Graduate Student Orientation offered online through the School of Graduate Education.

- Graduate students holding assistantships must complete the Graduate Assistant Onboarding course through WyoLearn.
- Graduate Teaching Assistants (GTAs) with instructional responsibilities for the first time must complete the GTA Learning Community Program.

Current requirements and resources are available at:

<https://www.uwyo.edu/uwgrad/enrolled-students/index.html>

4. Degree Requirements, Committees, and Milestones

This section describes degree requirements, graduate committee expectations, required examinations, Programs of Study, and typical timelines for the Master of Science (MS) and Doctor of Philosophy (PhD) programs in Mechanical Engineering. All students must also comply with University of Wyoming Graduate Student Regulations, College of Engineering and Physical Sciences (CEPS) policies, and Registrar procedures.

4.1 Master of Science (MS) in Mechanical Engineering

4.1.1 Degree Requirements

Plan A (Thesis)

- Minimum total credit hours: 30
- Thesis research: 4 credit hours of ME 5960 (or ME 5980)
- Seminar: ME 5478, 2 credit hours, taken during the final semester when the thesis is presented and defended
- ME courses (5000-level): minimum of 15 credit hours
- 4000-level courses outside of ME: maximum of 9 credit hours
- Independent Study (ME 5475): maximum of 3 credit hours

Courses outside of Mechanical Engineering must be approved by the academic advisor and may be selected from mathematics, statistics, science, or other engineering disciplines. Up to two courses may be taken from business, Environment and Natural Resources (ENR), or public policy.

Plan B (Non-Thesis)

- Minimum total credit hours: 30
- ME courses (5000-level): minimum of 15 credit hours
- 4000-level courses outside of ME: maximum of 9 credit hours
- Independent Study (ME 5475): maximum of 3 credit hours

Courses outside of Mechanical Engineering must be approved by the academic advisor. Research credits earned through ME 5960 as part of an unfinished Plan A program may not be applied toward a Plan B degree. Plan B students must complete a final examination or project presentation as required by the department.

4.1.2 MS Graduate Committee and Program of Study

- Plan A students must identify a research advisor during the first semester.
- A graduate committee must be formed by the end of the first year.
- A Committee Assignment Form must be submitted to the Registrar after committee approval.
- A Program of Study must be developed with the advisor (Plan A) or the Graduate Program coordinator (Plan B) and approved by the committee and Registrar by the end of the first year.

Official committee and Program of Study forms are available through the UW Registrar: https://www.uwyo.edu/registrar/students/graduate_student_forms.html

4.1.3 MS Milestones and Timeline

- Plan A (Thesis):
 - First semester: Identify advisor and begin research.
 - By end of first year: Form committee, submit Program of Study, and present research plan.
 - By end of second year: Public thesis presentation and defense.
- Plan B (Non-Thesis):
 - By end of first year: Form committee and Submit Program of Study.
 - Final semester: Complete final examination form.

4.2 Doctor of Philosophy (PhD) in Mechanical Engineering

4.2.1 Degree Requirements

- Minimum total credit hours: 72
- Minimum formal coursework: 42 credit hours
- Minimum in-resident coursework: 24 credit hours (ME 5980 counts toward residency)

Coursework Constraints

- ME courses (5000-level): minimum of 15 credit hours
- Independent Study (ME 5475): maximum of 3 credit hours
- 4000-level courses outside of ME: maximum of 9 credit hours

Courses outside of Mechanical Engineering must be approved by the academic advisor and may be selected from mathematics, statistics, science, or other engineering disciplines.

In addition to coursework, PhD students must successfully complete the Qualifying Examination, Preliminary Examination, and Final Examination (dissertation defense).

4.2.2 PhD Graduate Committee and Program of Study

- A research advisor must be identified during the first semester.
- A graduate committee should be formed by the end of the first year. A Committee Assignment Form must be submitted to the Registrar after committee approval.
- A Program of Study must be submitted by the end of the second year (or third year if entering without an MS).
- PhD students must convene their dissertation committee at least annually to review progress.

4.2.3 PhD Examinations

The PhD program includes multiple examinations to support student development at different stages of doctoral training. The Qualifying Examination assesses foundational

knowledge and readiness for doctoral-level research. The Preliminary Examination evaluates research aptitude and the feasibility of the proposed dissertation. The Final Examination (Dissertation Defense) evaluates the originality, rigor, and scholarly contribution of the completed research. Together, these examinations provide structured feedback, ensure academic rigor, and support steady progress toward degree completion.

- **Qualifying Examination:**
 - May be taken after declaring pursuit of the PhD degree; an MS degree is not required.
 - Consists of three subject areas, each with written and oral components.
 - A failed subject area may be repeated once; a third attempt is not permitted.
 - Successful completion is required before the Preliminary Examination.
- **Preliminary Examination:**
 - Evaluates research aptitude and the proposed dissertation plan.
 - At minimum includes a seminar attended by the student's committee.
 - Successful completion admits the student to PhD candidacy.
- **Final Examination:**
 - Consists of a public oral defense of the dissertation.
 - Conducted in accordance with University of Wyoming policies.

4.2.4 PhD Milestones and Timeline

- First semester: Identify advisor and begin research.
- By end of first year: Form graduate committee, Complete Qualifying Exam,
- By end of second year (or third year without MS): Submit Program of Study, and complete Preliminary Exam.
- Annually thereafter: Present progress report to graduate committee.
- Final stage: Public dissertation defense.

5. Roles and Responsibilities

Graduate education in the Department of Mechanical Engineering is a shared responsibility among graduate students, faculty advisors, graduate committees, and the department. In addition, graduate students holding assistantships are subject to University of Wyoming policies governing Graduate Fellowships and Assistantships.

5.1 Graduate Student Responsibilities

- Maintain satisfactory academic progress and remain in good academic standing.
- Meet all degree requirements and deadlines established by the department, CEAPS, and the Graduate School.

- Develop and follow an approved Program of Study in consultation with the advisor and graduate committee.
- Communicate regularly with the faculty advisor regarding academic and research progress.
- Conduct research and scholarly activities in accordance with University and professional ethical standards.
- Submit required graduate forms and documentation in a timely manner.
- Maintain professional conduct in all academic, instructional, and research environments.

5.2 Graduate Teaching Assistants (GTAs)

Graduate Teaching Assistants (GTAs) are appointed as part of the University's instructional mission and are subject to the University of Wyoming Standard Administrative Policy and Procedure for Graduate Fellowships and Assistantships (SAP, approved May 28, 2018).

- Key GTA expectations include:
 - GTAs must be admitted to a graduate degree program, be in good academic standing, and maintain a minimum cumulative GPA of 3.0.
 - GTAs must be enrolled full-time (normally 9 graduate credit hours) during semesters of appointment, unless approved exceptions apply.
 - GTAs may be appointed as Instructor-of-Record or in an Instructional Support role, with duties assigned and supervised by faculty.
 - GTAs are exempt from Fair Labor Standards Act (FLSA) minimum wage and overtime provisions under the teaching professional exemption.
- Workload and time limits:
 - Full-time GTA appointments carry an average workload of 20 hours per week; half-time appointments carry an average of 10 hours per week.
 - A full-time GTA may not serve as instructor-of-record for more than 6 credit hours in a single semester.
 - GTAs may not exceed their approved workload as averaged over the appointment period.
 - Additional employment with the University that would result in work exceeding 20 hours per week requires prior written approval.

GTAs must complete all required onboarding and training activities, including Graduate Assistant Onboarding and any required teaching development programs.

5.3 Graduate Research Assistants (GRAs)

Graduate Research Assistants (GRAs) are supported through research funding and engage in supervised research activities as part of their academic program.

- GRAs must maintain good academic standing with a minimum cumulative GPA of 3.0.

- GRAs are expected to work on research tasks consistent with funded project objectives under faculty supervision.
- Full-time and half-time workload expectations (20 or 10 hours per week, respectively) apply.
- GRAs must comply with sponsor requirements, research integrity policies, and data management expectations.

5.4 Graduate Committee Responsibilities

- Advise the student on coursework, research direction, and degree milestones.
- Review and approve the Program of Study.
- Evaluate student performance on required examinations, proposals, and defenses.
- Provide feedback during annual progress reviews.

5.5 Faculty Advisor Responsibilities

- Guide students in course selection and development of a compliant Program of Study.
- Provide mentorship on research direction, professional development, and scholarly conduct.
- Assist students in forming graduate committees.
- Meet regularly with students to review progress and provide timely feedback.

5.6 Graduate Program Coordinator

- Monitor student progress toward degree milestones.
- Provide guidance on policies, procedures, and deadlines.
- Assist with interpretation of Graduate School and CEAPS regulations.

5.7 Department Head

- Provide leadership and oversight for graduate education within the department.
- Ensure departmental practices align with University and College policies.
- Address unresolved issues related to advising, progress, or professional conduct.

6. Graduate Student Resources

The University of Wyoming and the College of Engineering and Physical Sciences provide a wide range of resources to support graduate students academically, professionally, and personally. Mechanical Engineering graduate students are encouraged to make use of these resources throughout their programs.

6.1 Departmental Resources

- Graduate Program Coordinator and staff: <https://www.uwyo.edu/mechanical/grad-students/>
- Department laboratories and facilities: <https://www.uwyo.edu/mechanical/research/>

6.2 College and University Resources

- School of Graduate Education: <https://www.uwyo.edu/uwgrad/>
- Graduate student resources and enrolled student information: <https://www.uwyo.edu/uwgrad/enrolled-students/>
- UW Libraries: <https://www.uwyo.edu/libraries/>
- Information Technology services: <https://www.uwyo.edu/it/>
- College of Engineering and Physical Sciences: <https://www.uwyo.edu/ceps/>

6.3 Professional Development

- Graduate professional development programs: <https://www.uwyo.edu/uwgrad/enrolled-students/gradprofessionaldevelopment.html>
- Teaching development and GTA resources: <https://www.uwyo.edu/uwgrad/enrolled-students/teaching.html>
- Career Development Center: <https://www.uwyo.edu/career/>

6.4 Student Support and Wellness

- Student Health Service: <https://www.uwyo.edu/shser/>
- Counseling Center: <https://www.uwyo.edu/ucc/>
- Disability Support Services: <https://www.uwyo.edu/disability/>
- International Student and Scholar Services: <https://www.uwyo.edu/iss/>
- Title IX and Equal Opportunity: <https://www.uwyo.edu/titleix/>

7. Frequently Asked Questions (FAQ)

This section addresses common questions from Mechanical Engineering graduate students. Students should always verify current policies and deadlines through official University of Wyoming sources.

7.1 Enrollment and Credit Hours

Full-time graduate enrollment is typically defined as 9 graduate credit hours during the fall and spring semesters. Assistantship holders must meet full-time enrollment requirements unless an approved exception applies. See Graduate School enrollment guidance: <https://www.uwyo.edu/uwgrad/enrolled-students/registration.html>

7.2 Program of Study and Committees

Graduate students must submit a Program of Study and form an approved graduate committee by published deadlines. Official forms are available from the UW Registrar: https://www.uwyo.edu/registrar/students/graduate_student_forms.html

7.3 Assistantships and Funding

Graduate assistantships are competitive and contingent on funding availability. Information on assistantship policies and funding is available from the School of Graduate Education: <https://www.uwyo.edu/uwgrad/enrolled-students/financial-assistance/>

7.4 Forms and Deadlines

Graduate forms and academic deadlines are maintained by the UW Registrar:

<https://www.uwyo.edu/registrar/students/academic-calendars.html>

7.5 Policy Questions and Changes

University, College, and Graduate School policies may change. In the event of a conflict between this handbook and official University policy, the official policy takes precedence. Graduate Student Regulations and Policies are available at:

<https://acalogcatalog.uwyo.edu/content.php?catoid=16&navoid=1447>

7.6 Optional Graduate Student Fee Package

Graduate students may elect to purchase an optional fee package offered by the University of Wyoming. This optional package typically provides access to selected campus services and facilities that are not automatically included in graduate tuition and fees.

Participation in the optional fee package is voluntary and must be selected during the registration or billing process for the applicable semester. Fees, eligibility, and included services are subject to change and are determined by University policy.

Students are responsible for reviewing current options, costs, and deadlines through Student Accounts and Registration resources:

<https://www.uwyo.edu/sfa/student-accounts/>

<https://www.uwyo.edu/registrar/>

Integrated Degree Timelines (Summary Tables)

The following tables summarize recommended timelines for MS and PhD students. They are derived from departmental MS and PhD program framework documents and are consistent with the degree requirements and milestones described in Section 4.

MS Program Timeline Overview

Milestone	Action	Recommended Timing
Advisor Selection	Identify faculty advisor	First semester
Graduate Committee	Submit Committee Assignment Form	By end of 2nd semester
Program of Study	Submit Program of Study	By 3rd semester
Thesis Defense (Plan A)	Public defense and final exam report	Final semester
Graduation	Submit thesis and paperwork	Graduation semester

PhD Program Timeline Overview

Milestone	Action	Recommended Timing
Advisor Selection	Identify faculty advisor	First semester
Graduate Committee	Submit Committee Assignment Form	By end of 2nd semester
Program of Study	Submit Program of Study	By end of 3rd semester
Qualifying Exam	Complete Qualifying Exam	Before Preliminary Exam
Preliminary Exam	Complete Preliminary Exam	Mid-program
Dissertation Defense	Public defense and final exam report	Final semester