GRADUATE STUDENT HANDBOOK

University of Idaho

Department of Mechanical Engineering

Fall 2025

This information supplements general information in the current University of Idaho Catalog.
A summary of university requirements for graduate degrees can be found at www.uidaho.edu/catalog/

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ADMISSION REQUIREMENTS FOR GRADUATE STUDENTS IN MECHANICAL ENGINEERING

Degrees Offered

The Mechanical Engineering Department offers three different graduate degrees: Master of Engineering (M.Engr.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.).

Required Educational Background

Graduate applicants should have completed a bachelor's degree in mechanical engineering or a closely related field with a minimum 3.0 GPA. Applicants with a GPA below 3.0 may also be considered for acceptance based on their performance in their last 60 credits, work experience, or other relevant factors (see the link below).

Applicants with a B.S. degree in Mechanical Engineering from an ABET-Accredited U.S. Program

Admission to the Mechanical Engineering Graduate Program is open to students with a baccalaureate degree in mechanical engineering from an ABET-accredited U.S. program.

Applicants with a B.S. degree Closely Related to Mechanical Engineering from an ABET-Accredited U.S. Program

Students with a baccalaureate degree closely related to mechanical engineering from an ABET-accredited U.S. program may also be considered for admission. Such students must demonstrate proficiency in the core subjects of mechanical engineering and mathematics. If admitted, students are generally assigned undergraduate courses to address any deficiencies; these courses are in addition to graduate degree requirements.

Applicants with a B.S. Degree from a Non-ABET-Accredited U.S. Program

Students who do not have a baccalaureate degree from an ABET-accredited U.S. engineering program may also be considered for admission. Such students must demonstrate proficiency in mechanical engineering and mathematics subjects-in UI's B.S.M.E. curriculum. If admitted, students are generally assigned undergraduate courses to address any deficiencies; these courses are in addition to graduate degree requirements.

Graduate Record Examination Requirements

Graduate Record Examination (GRE) scores are required for all Ph.D. applicants. GRE scores are not required for M.S. and M.Engr. applicants who hold an undergraduate degree from an ABET-accredited program. GRE target scores for admission are: 151 Verbal (50th percentile), 153 Quantitative (65th percentile), and 4.0 Analytical Writing.

English Proficiency Requirements

Proof of English language proficiency is required of all international students or any applicants for whom English is not their primary language. This requirement may be met with a TOEFL (Test of English as a Foreign Language) overall score of 79 or greater, or an IELTS (International English Language Testing System) overall score of 6.5. Other forms of proof of English language proficiency may be accepted (see link below).

Additional Details

More complete details regarding admission requirements, recommended GRE scores and English proficiency requirements are listed here: https://www.uidaho.edu/admissions/graduate/graduate-programs/mechanical-engineering

MASTER OF ENGINEERING (M.ENGR.) DEGREE ROADMAP

Roadmap Overview

The table below provides an overview; detailed requirements are outlined in subsequent sections.

Student Task	*Summary Details & Requirements*	*Timeline*
1. If applicable, submit the *Credit Reservation* form to **reserve** UG credits for GR degree	• Reserved credits cannot be used to satisfy UG degree requirements • Maximum 12 credits reserved + shared • 4000+ level ME courses, ≥ B	Before B.S.M.E. completion
2. If applicable, submit the *Credit Reservation* form to **share** credits between UG & GR degrees	• Maximum 6 shared credits (applied to both UG & GR degrees) • 4000+ level ME courses, ≥ B	Before B.S.M.E. completion or end of 1st GR semester
3. Appoint a major professor and select non-thesis research project	• MP must be ME and Graduate faculty • MP must approve research project	By end of 1st GR semester
4. Appoint Committee	• 2+ members, ≥ half ME Faculty • Major professor serves as chair	By end of 1st GR semester
5. Submit Study Plan	• Consult with major professor • 30 credits	By end of 1st GR semester
6. Submit project report and make a presentation to GR Committee	• Minimum 5-page project report • 20–30 minute oral presentation	4 weeks before the end of the final GR semester

Grade-Point Average (GPA) Requirements

University of Idaho policy requires that graduate students maintain a 3.0 or higher GPA. If a student's GPA is less than 3.0 in any semester, the student is placed on probation; if it occurs for two semesters, the student is disqualified. See the U of I Graduate Catalog: https://catalog.uidaho.edu/colleges-related-units/graduate-studies/

Annual Report of Progress and Performance

GR students must meet with their major professor each spring semester and complete the *Annual Report of Progress and Performance* form (COGs forms). Students are responsible for initiating the process, completing the form, and submitting it to the department. The form is due on the second Friday in April.

Graduate Student Code of Conduct

Graduate students are expected to uphold the highest academic and professional standards and contribute to the mission of the Department of Mechanical Engineering. This includes maintaining professionalism and actively supporting fellow students in their research and academic pursuits. Graduate students are also responsible for learning and following all university policies related to ethical research and scholarly conduct. Graduate students should review and understand the UI's Student Code of Conduct described here: https://www.uidaho.edu/student-resources/dean-of-students/code-of-conduct

Major Professor and Committee Selection

Appointment of Major Professor

M.Engr. students must identify a Mechanical Engineering faculty member willing to serve as their major professor by the end of the first semester of graduate enrollment. Only official members of the UI Graduate Faculty, as designated by COGS, may serve as major professors (typical of research-active tenure-track faculty). Students must submit the *Major Professor, Committee Member Appointment or Committee Changes* form (COGs forms) to designate their major professor. Students must appoint a major professor before submitting their Study Plan.

Appointment of Graduate Committee

The M.Engr. committee must consist of at least two members and should be chosen in consultation with the major professor, who must serve as chair. At least one-half of the committee members must be members of the U of I graduate faculty. A committee member may only serve on a committee if they have obtained (or surpassed) the degree

being pursued. An outside (non-UI) expert may serve on a graduate committee with advanced approval from the Department Chair. Use the *Major Professor, Committee Member Appointment or Committee Changes* form to add or remove a committee member.

Study Plan and Course Requirements

Students, in consultation with their major professor, are required to submit a Study Plan in Degree Audit on MyUI by the end of the first semester of graduate enrollment. The M.Engr. degree requires 30 credits, including reserved and shared credits (see definitions & rules below). Study plans exceeding this limit require the approval of the Major Professor. Study plan corrections are also submitted via MyUI. The best time to correct the plan is early in the semester of graduation. See the College of Graduate Studies intranet site for help with Study Plans.

Course Selection and Credit Requirements Overview

Credit Hrs. Off-campus Student	Credit Hrs. On-campus Student	Course Requirement or Course Choices
6	6	*Select from the following:* • ME 5400 Continuum Mechanics • ME 5410 Mechanical Engineering Analysis • ME 5440 Conduction Heat Transfer, or • ME 5800 Linear System Theory • 4000 or higher-level courses in Mathematics, Statistics, or Numerical Methods approved by the Major Professor & Department Chair
15-17	12-15	Mechanical Engineering Technical Electives (4000 or higher level)
6	6	Other Technical Electives
n/a	1	ME 5010 Graduate Seminar. Graduate Seminar is typically offered in the spring and should be taken during the final spring semester for students expecting to graduate in spring or summer.
1-3	2-5	ME 5990 Non-Thesis Research
30	**30**	**TOTAL CREDITS** (>30 credits allowed with Major Professor approval)

Additional Requirements

- At least 3 classes must consist of subject material focused on mechanical engineering at the 5000 level.
- At least 18 credits must be at the 5000 level. No credits may be at the 3000 level or lower.
- ME 5000 research credits may not count toward the M.Engr. degree.
- A grade of C or better is required in all courses used to meet degree requirements.
- Cumulative GPA of 3.00 in all graduate courses, including those not used to meet degree requirements.

Reserved and Shared Credits (see COGS and general catalogs for more details)

- UI undergraduates can share up to 6 credits between UG and GR degrees.
- UI undergraduates can reserve up to 12 credits for their graduate transcript. Reserved courses will not appear on the UG transcript and cannot be used to satisfy UG degree requirements.
- No more than a total of 12 UI undergraduate credits (shared + reserved) can be applied to the graduate transcript.
- Both reserved and shared credits must be Mechanical Engineering technical electives, 4000+ level, grade ≥ B.
- The *Credit Reservation Request Form*, used for both reserved and shared credit, must be approved by COGS by the end of the final undergraduate term.

Accelerated 4+1 Option for Continuing University of Idaho Mechanical Engineering Undergraduates

- Expedited admission with application fee waiver and letters of recommendation waiver.
- Students must apply to the M.Engr. degree 4+1 program during their final year of UG studies.
- Students in the accelerated program are eligible for the UG tuition rate through the 1st year of their GR program.
- For more information and application details, go to www.uidaho.edu/graduate-studies/admissions/four-plus-one

Non-Thesis Research Project

Selection of Non-Thesis Research Project and Expectations

- The major professor must approve non-thesis research projects.
- For on-campus students, the non-thesis research project should support department research activities.
- Off-campus students can alternatively select a project related to their employment.
- Project workload should be consistent with the number of ME 5990 Non-Thesis Research Project credits in the study plan (~50 hours per credit).
- All graduate students must submit a comprehensive archive of their research to their major professor for approval before graduation. This archive must include, but is not limited to, all raw data, figures, source files (e.g., codes, simulations, and experimental setups), and associated documents (e.g., reports, presentations, and posters). This ensures that the research is thoroughly documented, reproducible, and meets the academic and professional standards of the program. The major professor will evaluate the completeness and quality of the submitted archive to verify that it is suitably organized for future publication or reference.

Non-Thesis Research Project Report and Presentation

The committee will evaluate the project work as described in the report and presentation:

- The report must be reviewed and approved by the major professor. The typical writing length is five or more pages.
- The report should be submitted to the graduate committee at least one week before the presentation.
- The oral presentation should be reviewed and approved by the major professor. The typical length is 20-30 minutes.
- The oral presentation should be given on campus and/or via video conferencing.
- A one-hour follow-up examination may be required at the committee's discretion.
- Graduate enrollment is required during the semester of completion of the M.Engr. project, report, and presentation.
- Rubrics are used to evaluate the final report and final presentation. They are located at the end of this document.

Completion of Non-Thesis Requirements

With the committee's approval, the major professor will submit a memo confirming that non-thesis requirements have been met to the department chair. The major professor will also confirm that non-degree requirements have been met on the Banner Workflow system.

MASTER OF SCIENCE (M.S.) DEGREE ROADMAP

Roadmap Overview

The table below provides an overview; detailed requirements are outlined in subsequent sections.

Student Task	*Summary Details & Requirements*	*Timeline*
1. If applicable, submit the *Credit Reservation* form to **reserve** UG credits for GR degree	• Reserved credits cannot be used to satisfy UG degree requirements • Maximum 12 credits reserved + shared • 4000+ level ME courses, ≥ B	Before B.S.M.E. completion
2. If applicable, submit the *Credit Reservation* form to **share** credits on both UG & GR degrees	• Maximum 6 shared credits (applied to both UG & GR degrees) • 4000+ level ME courses, ≥ B	Before B.S.M.E. completion or end of 1st GR semester
3. Appoint a major professor (MP) and select a thesis research project	• MP must be ME and Graduate faculty • MP must approve research project	By end of 2nd GR semester
4. Appoint Committee	• 3+ members, ≥ half ME Faculty • Major professor as chair	By end of 2nd GR semester
5. Submit Study Plan	• Consult with major professor • 30 credits	By end of 2nd GR semester
6. Schedule Defense and submit *Request to Proceed with Final Defense* form	• Coordinate with major professor • Submit abstract to ME office	Refer to COGs dates and deadlines
7. Submit thesis draft to committee and COGs/ETD for formatting review	• Consult COGS website for formatting requirements	At least 2 weeks before thesis defense
8. Complete thesis defense	• Oral presentation w/ questions • Major professor submits Report of Final Defense form to COGs	Refer to COGs dates and deadlines
9. Submit final draft to ETD	• Complete required revisions & edits • Submit after committee approval	Refer to COGs dates and deadlines

Grade-Point Average (GPA) Requirements

University of Idaho policy requires that graduate students maintain a 3.0 or higher GPA. If a student's GPA is less than 3.0 in any semester, the student is placed on probation; if it occurs for two semesters, the student is disqualified. See the U of I Graduate Catalog: https://catalog.uidaho.edu/colleges-related-units/graduate-studies/

Annual Report of Progress and Performance

GR students must meet with their major professor each spring semester and complete the *Annual Report of Progress and Performance* form (COGs forms). Students are responsible for initiating the process, completing the form, and submitting it to the department. The form is due on the second Friday in April.

Graduate Student Code of Conduct

Graduate students are expected to uphold the highest academic and professional standards and contribute to the mission of the Department of Mechanical Engineering. This includes maintaining professionalism and actively supporting fellow students in their research and academic pursuits. Graduate students are also responsible for learning and following all university policies related to ethical research and scholarly conduct. Graduate students should review and understand the UI's Student Code of Conduct described here: https://www.uidaho.edu/student-resources/dean-of-students/code-of-conduct

Major Professor and Committee Selection

Appointment of Major Professor

M.S. students must identify a Mechanical Engineering faculty member willing to serve as their major professor by the end of the first semester of graduate enrollment. Only official members of the UI Graduate Faculty, as designated by COGS, may serve as major professors (typical of research-active tenure-track faculty). Students must submit the *Major Professor, Committee Member Appointment or Committee Changes* form (COGs forms) to designate their

major professor. Students must appoint a major professor before submitting their Study Plan.

Appointment of Graduate Committee

The M.S. committee must consist of at least three members and should be chosen in consultation with the major professor, who must serve as chair.

At least one-half of the committee members must be members of the U of I graduate faculty. A committee member may only serve on a committee if they have obtained (or surpassed) the degree being pursued. An outside (non-UI) expert may serve on a graduate committee with advanced approval from the Department Chair. Use the *Major Professor, Committee Member Appointment or Committee Changes* form to add or remove a committee member.

Study Plan and Course Requirements

Students, in consultation with their major professor, are required to submit a Study Plan in Degree Audit on MyUI by the end of the first semester of graduate enrollment. The M.S. degree requires 30 credits, including reserved and shared credits (see definitions & rules below). Study plans exceeding this limit require Major Professor approval. Study plan corrections are also submitted via MyUI. The best time to correct the plan is early in the semester of graduation. See the College of Graduate Studies intranet site for help with Study Plans.

Course Selection and Credit Requirements

Credit Hrs. Off-campus Student	Credit Hrs. On-campus Student	Course Requirement or Course Choices
6	6	Select from the following: • ME 5400 Continuum Mechanics • ME 5410 Mechanical Engineering Analysis • ME 5440 Conduction Heat Transfer, or • ME 5800 Linear System Theory • 4000 or higher-level courses in Mathematics, Statistics, or Numerical Methods approved by the Major Professor & Department Chair
9-12	9	Mechanical Engineering Technical Electives (4000 or higher level)
6	6	Other Technical Electives
n/a	2	ME 5010 Graduate Seminar. Graduate Seminar is typically offered in the spring and should be taken during the first year of study. It should be retaken during the final spring semester for students expecting to graduate in spring or summer.
6-9	7	ME 5000 Master's Research and Thesis (Note: Off-campus students can replace three research credits with three approved coursework credits.)
30	**30**	**TOTAL CREDITS** (>30 credits allowed with Major Professor approval)

Additional Requirements

- At least 3 classes must consist of subject material focused on mechanical engineering at the 5000 level.
- At least 18 credits must be at the 5000 level. No credits may be at the 3000 level or lower.
- A grade of C or better is required in all courses used to meet degree requirements.
- Cumulative GPA of 3.00 in all graduate courses, including those not used to meet degree requirements.

Reserved and Shared Credits (see COGS and general catalogs for more details)

- UI undergraduates can share up to 6 credits between UG and GR degrees.
- UI undergraduates can reserve or share up to 12 credits for their graduate transcript. Reserved courses will not appear on the UG transcript and cannot be used to satisfy UG degree requirements.
- No more than a total of 12 UI undergraduate credits (shared + reserved) can be applied to the graduate transcript.
- Both reserved and shared credits must be Mechanical Engineering technical electives, 4000+ level, grade ≥ B.
- The *Credit Reservation Request Form*, used for both reserved and shared credit, must be approved by COGS by the end of the final undergraduate term.

Thesis and Research

Selection of Thesis Topic and Research Expectations

- The major professor must approve M.S. research projects.
- Research projects should support the major professor and the department's research activities.
- Additional research, beyond that conducted as part of a research assistantship and ME 5000 coursework, may be necessary for thesis completion.
- Students are expected to make a novel contribution to their field. Examples include new knowledge gained experimentally, a novel application of an existing technique, validation of models or simulations, or improvement or optimization of a mechanical system.
- Students are expected to perform a comprehensive literature review in their field to guide their research and ensure originality. The literature review should cover the breadth of their field and go in-depth in their specific area.
- The M.S. thesis summarizes the pertinent research field via literature review and documents the novel research work and results. Students should consult the College of Graduate Studies and their major professor regarding thesis writing expectations.
- M.S. research should be publishable, either independently or as part of related work. The major professor, with graduate committee guidance, may require submission to a peer-reviewed journal or conference proceeding before degree completion.
- All graduate students must submit a comprehensive archive of their research to their major professor for approval before graduation. This archive must include, but is not limited to, all raw data, figures, source files (e.g., codes, simulations, and experimental setups), and associated documents (e.g., reports, presentations, and posters). This ensures that the research is thoroughly documented, reproducible, and meets the academic and professional standards of the program. The major professor will evaluate the completeness and quality of the submitted archive to verify that it is suitably organized for future publication or reference.

Request to Proceed with Final Defense of Thesis

- At least 2 weeks before the thesis defense, a Request to Proceed with Final Defense form (COGs forms) must be submitted to the College of Graduate Studies.
- After receiving the Request to Proceed with Final Defense form, COGs will email the student and major professor a Report of Final Defense form.
- After the defense, the committee will sign the form, which the major professor will submit to COGs.

Thesis Defense Advertisement

- At least a week before the defense, students must submit their thesis abstract to the ME office for advertisement.

Thesis Defense

- The final thesis defense is scheduled in conjunction with the major professor and graduate committee.
- A thesis draft should be submitted to committee members at least 2 weeks before the defense date.
- All graduate committee members must be present at the defense, either physically or virtually.
- Graduate students are responsible for determining a suitable date and time.
- The thesis defense starts with a presentation (~30-45 min.) of the thesis research work, followed by questions.
- An oral examination on coursework and/or matters related to the thesis may also be given.
- After deliberation, the graduate committee may require additional research, thesis content, or edits to the thesis.
- At the committee's discretion, students may be required to repeat the thesis defense.
- Graduate enrollment is required during the semester of completion of the thesis defense.
- Evaluation rubrics for the thesis manuscript and defense presentation are located at the end of this document.

Electronic Submission of Theses and Dissertations (ETD)

- The final submission of the Ph.D. dissertation is electronic, via ETD (www.etdadmin.com/?siteId=126).
- For help with ETD, go to Prepare and submit your thesis or dissertation.
- Refer to Thesis and dissertation resources for graduation, defense, and ETD deadlines.
- A complete thesis draft should be submitted to ETD for a formatting review before the defense.
- Before and after the defense, students should work with their major professor and committee to make all required revisions and edits. ETD should not be used for managing edits and revisions.
- Students should submit their final version to ETD once their committee is ready to sign off on their manuscript.

DOCTOR OF PHILOSOPHY (PH.D.) DEGREE ROADMAP

Roadmap Overview

The table below provides an overview; detailed requirements are outlined in subsequent sections.

Student Task	*Summary Details & Requirements*	*Timeline*
1. If applicable, submit the *Credit Reservation* form to **reserve** UG credits for GR degree	• Reserved credits cannot be used to satisfy UG degree requirements • Maximum 12 credits reserved + shared • 4000+ level ME courses, ≥ B	Before B.S.M.E. completion
2. Appoint a major professor (MP) and select a thesis research project	• MP must be ME and Graduate faculty • MP must approve research project	By end of 2nd GR semester
3. Appoint Committee	• 3+ members, ≥ half ME Faculty • Major professor as chair	By end of 2nd GR semester
4. Submit Study Plan	• Consult with major professor • 30 credits	By end of 2nd GR semester
5. Schedule and Pass the Preliminary Exam	• After majority of study plan complete • Coordinate with major professor	At least 1 year before dissertation defense
6. Schedule Defense and submit *Request to Proceed with Final Defense* form	• Coordinate with major professor • Submit abstract to ME office	Refer to COGs dates and deadlines
7. Submit thesis draft to committee and COGs/ETD for formatting review	• Consult COGS website for formatting requirements	At least 2 weeks before thesis defense
8. Complete thesis defense	• Oral presentation w/ questions • Major professor submits Report of Final Defense form to COGs	Refer to COGs dates and deadlines
9. Submit final draft to ETD	• Complete required revisions & edits • Submit after committee approval	Refer to COGs dates and deadlines

Grade-Point Average (GPA) Requirements

University of Idaho policy requires that graduate students maintain a 3.0 or higher GPA. If a student's GPA is less than 3.0 in any semester, the student is placed on probation; if it occurs for two semesters, the student is disqualified. See the U of I Graduate Catalog: https://catalog.uidaho.edu/colleges-related-units/graduate-studies/

Annual Report of Progress and Performance

GR students must meet with their major professor each spring semester and complete the *Annual Report of Progress and Performance* form (COGs forms). Students are responsible for initiating the process, completing the form, and submitting it to the department. The form is due on the second Friday in April.

Graduate Student Code of Conduct

Graduate students are expected to uphold the highest academic and professional standards and contribute to the mission of the Department of Mechanical Engineering. This includes maintaining professionalism and actively supporting fellow students in their research and academic pursuits. Graduate students are also responsible for learning and following all university policies related to ethical research and scholarly conduct. Graduate students should review and understand the UI's Student Code of Conduct described here: https://www.uidaho.edu/student-resources/dean-of-students/code-of-conduct

Major Professor and Committee Selection

Appointment of Major Professor

Ph.D. students must identify a Mechanical Engineering faculty member willing to serve as their major professor by the end of the first semester of graduate enrollment. Only official members of the UI Graduate Faculty, as designated by COGS, may serve as major professors (typical of research-active tenure-track faculty). Students must submit the

Major Professor, Committee Member Appointment or Committee Changes form (COGs forms) to designate their major professor. Students must appoint a major professor before submitting their Study Plan.

Appointment of Graduate Committee

The Ph.D. committee must consist of at least four members and should be chosen in consultation with the major professor, who must serve as chair.

At least one-half of the committee members must be members of the U of I graduate faculty. A committee member may only serve on a committee if they have obtained (or surpassed) the degree being pursued. An outside (non-UI) expert may serve on a graduate committee with advanced approval from the Department Chair. Use the *Major Professor, Committee Member Appointment or Committee Changes* form to add or remove a committee member.

Study Plan and Course Requirements

Students, in consultation with their major professor, are required to submit a Study Plan in Degree Audit on MyUI by the end of their 2nd semester of graduate enrollment. The Ph.D. degree requires 78 credits beyond the B.S.M.E. degree, including reserved and shared credits (see definitions & rules below). Study plans exceeding this limit require Major Professor approval. Study plan corrections are also submitted via MyUI. The best time to correct the plan is early in the semester of graduation. See the College of Graduate Studies intranet site for help with Study Plans.

Course Selection and Credit Requirements

Credit Hours	Course Requirement or Course Choices
6	Select from the following: • ME 5400 Continuum Mechanics • ME 5410 Mechanical Engineering Analysis • ME 5440 Conduction Heat Transfer, or • ME 5800 Linear System Theory • 4000 or higher-level courses in Mathematics, Statistics, or Numerical Methods approved by the Major Professor & Department Chair
12	Mechanical Engineering Technical Electives (4000 or higher level)
12 - 30	Other Technical Electives (4000 or higher level)
3	ME 5010 Graduate Seminar. The Graduate Seminar is typically offered in the spring and should be taken during the first year of study, followed by a repeat in one of the subsequent two years. It should be taken for the final time during the final spring semester for students expecting to graduate in spring or summer.
27 - 45	ME 6000 PhD Research and Dissertation (students with a prior M.S. degree may include up to 6 credits of ME 5000 Master's Research and Thesis or ME 5990 Non-Thesis Master's Research)
78	**TOTAL POST BACCALAUREATE CREDITS**

Additional Requirements

- Credits from a previous graduate degree may be used towards Ph.D. course requirements, assuming they meet COGs criteria. This typically includes all 30 credits from an M.S.M.E. degree from UI.
- At least 52 credits at the 5000 level and above, including no more than six thesis or non-thesis research credits. No credits may be at the 3000 level or lower.
- At least 39 credits must be earned while enrolled as a UI graduate student.
- With committee approval, a maximum of 30 credits may be more than 8 years old when the degree is conferred.
- A grade of C or better is required in all courses used to meet degree requirements.
- Cumulative GPA of 3.00 in all graduate courses, including those not used to meet degree requirements.
- Ph.D. students must complete the preliminary examination (more details in the following sections).
- All degree requirements must be completed no later than five (5) years after the date on which the candidate passes his/her preliminary examination.

Reserved and Shared Credits (see COGS and general catalogs for more details)

- UI undergraduates can share up to 6 credits between UG and GR degrees.

- UI undergraduates can reserve or share up to 12 credits (including shared credits) for their graduate transcript.
- Reserved courses will not appear on the UG transcript and cannot be used to satisfy UG degree requirements.
- Both reserved and shared credits must be Mechanical Engineering technical electives, 4000+ level, grade ≥ B.
- The *Credit Reservation Request Form*, used for both reserved and shared credit, must be approved by COGS by the end of the final undergraduate term.

Research and Dissertation

Selection of Research Topic and Dissertation Expectations

- The major professor must approve Ph.D. research projects.
- Ph.D. research projects should support the major professor and the department's research activities.
- Additional research, beyond that conducted as part of a research assistantship and ME 6000 coursework, may be necessary for dissertation completion.
- Students are expected to produce a significant and original contribution to their field via new knowledge, theory, or methodology. The work should be novel and generalizable. Examples include new theoretical models, innovative experimental techniques, creative numerical simulations, development of new or advancement of existing methods, and experimental validation of hypotheses.
- Students are expected to perform a comprehensive literature review in their field to guide their research and ensure originality. The literature review should cover the breadth of their field and go in-depth in their specific area.
- The Ph.D. dissertation summarizes the pertinent research field via literature review and documents the novel research work and results. Students should consult the College of Graduate Studies and their major professor regarding dissertation preparation and writing expectations.
- Ph.D. students are expected to produce multiple reputable publications as part of their dissertation research. The exact quantity may vary by project, field, and publication quality. The major professor, with graduate committee guidance, may require submission(s)/publication(s) to/in peer-reviewed journals or conference proceedings before degree completion. Co-authored papers with advisors or collaborators are typical, but first-author papers are emphasized as evidence of independent research. Papers must present novel findings, whether through experimental work, simulations, or theoretical advancements.
- Ph.D. students can include published papers as chapters in their dissertation, an introductory chapter, and a concluding chapter tying the work together.
- All graduate students must submit a comprehensive archive of their research to their major professor for approval before graduation. This archive must include, but is not limited to, all raw data, figures, source files (e.g., codes, simulations, and experimental setups), and associated documents (e.g., reports, presentations, and posters). This ensures that the research is thoroughly documented, reproducible, and meets the academic and professional standards of the program. The major professor will evaluate the completeness and quality of the submitted archive to verify that it is suitably organized for future publication or reference.

Preliminary Examination and Advancement to Candidacy

The preliminary exam aims to ensure that the candidate has achieved adequate technical knowledge, research progress, and planning to complete the remainder of the required research and defend the dissertation successfully.

The major professor and the committee will administer the preliminary examination when the majority of the student's study plan has been completed and the candidate has demonstrated sufficient research progress. The Preliminary Examination **must be completed at least one year before anticipated graduation**.

The preliminary examination consists of a research proposal presentation (approximately 30 - 60 min.) followed by questions from the committee. The proposal should describe their preliminary research and results, completed and planned publications and coursework, and outline a plan for completing their research and dissertation.

The possible outcomes of the preliminary examination are the following:

- **Pass**: The student advances to candidacy.
- **Fail**: The student does not advance to candidacy. A 2nd attempt must be scheduled within a timeframe (generally between 3 and 6 months) specified by the committee. Repeated failure may disqualify the student from continuing.
- **Deferral**: The committee may request additional requirements, such as a written document or a revised preliminary examination presentation, before finalizing their decision.

At the conclusion of the examination, the major professor submits the *Report of Preliminary Examination and Advancement to Candidacy* form (COGs forms) to the College of Graduate Studies.

Request to Proceed with Final Defense of Dissertation

- The dissertation defense should be at least one year after the preliminary examination.
- At least 2 weeks before the dissertation defense, a R*equest to Proceed with Final Defense* form (COGs forms) must be submitted to the College of Graduate Studies.
- After receiving the *Request to Proceed with Final Defense* form, COGs will email the student and major professor a *Report of Final Defense form*.
- After the defense, the committee will sign the form, which the major professor will submit to COGs.

Dissertation Defense Advertisement

- At least a week before the defense, students must submit their thesis abstract to the ME office for advertisement.

Dissertation Defense

- The final dissertation defense is scheduled in conjunction with the major professor.
- A dissertation draft should be submitted to committee members at least 2 weeks before the defense date.
- All graduate committee members must be present at the defense, either physically or virtually.
- Graduate students are responsible for determining a suitable date and time.
- The dissertation defense starts with a presentation (~30-60 min.) of the research work, followed by questions.
- An oral examination on coursework and/or matters related to the thesis may also be given.
- After deliberation, the graduate committee may require additional research and/or dissertation content and edits.
- At the committee's discretion, students may be required to repeat the dissertation defense.
- Graduate enrollment is required during the semester of completion of the dissertation defense.
- Evaluation rubrics for the dissertation manuscript and defense presentation are located at the end of this document.

Electronic Submission of Theses and Dissertations (ETD)

- The final submission of the Ph.D. dissertation is electronic, via ETD (www.etdadmin.com/?siteId=126).
- For help with ETD, go to Prepare and submit your thesis or dissertation.
- Refer to Thesis and dissertation resources for graduation, defense, and ETD deadlines.
- A complete thesis draft should be submitted to ETD for a formatting review before the defense.
- Before and after the defense, students should work with their major professor and committee to make all required revisions and edits. ETD should not be used for managing edits and revisions.
- Students should submit their final version to ETD once their committee is ready to sign off on their manuscript.

MEngr/MS/PhD Project/Defense Presentation and Report/Thesis/Dissertation Evaluation Form

Student: _____ Date: _____

Evaluators: _____
(committee members)
_____

_____

_____

Evaluation Instructions:

- Complete the **Defense Presentation Rubric** on page 2, checking either MEngr MS, or PhD at the top.
- Complete the **Manuscript Rubric** on page 3, checking either: MEngr, MS, or PhD at the top.
- Both rubrics are to be used for MEngr, MS, and PhD students with expected performance expectations:
  - MEngr students are expected to perform over the range of Competent/Proficient/Master (2-4).
  - MS students are expected to perform over the range of Competent/Proficient/Master (2-4).
  - PhD students are expected to perform over the range of Proficient/Master/Expert (3-5).

  Some students may perform outside of these ranges. If a MEngr student is not required to submit a written report, the manuscript rubric may be completed based on the written presentation content (slides).
- The rubrics on this form should be completed by the Major Professor with committee agreement.
- In case of disagreement, a committee member may fill out a separate form.

Notes/Comments:

Defense Presentation Rubric: ☐MEngr Project *or* ☐MS Thesis *or* ☐PhD Dissertation

Competency	**Novice 1**	**Competent 2**	**Proficient 3**	**Master 4**	**Expert 5**	**Sub-Score**
Organization and Language 12%	Fails to recognize audience and purpose Poorly organized with poor or sporadic detail. Distracting grammar and spelling errors.	Some effort to target audience and purpose. Minimally organized with marginal detail. Acceptable grammar & some spelling errors.	Audience and purpose clearly understood. Moderately organized with appropriate detail. Solid grammar & minimal spelling errors.	Constructed for audience and purpose. Well-organized with insightful detail. Good grammar and sparce spelling errors.	Tailor-made for audience and purpose. Thoroughly organized with astute detail. Excellent grammar and no spelling errors.	
Background and Motivation 14%	Incomplete description of problem and previous work. Insufficient argument for research significance.	Reasonable description of problem and previous work. Obscure argument for research significance.	Suitable description of research and previous work. Clear argument for research significance.	Good description of research and previous work. Strong, clear argument for research significance.	Insightful description of problem and previous work. Convincing argument for research significance.	
Research Methods 16%	Contribution unclear and/or un-differentiable from previous work. Inadequate derivation of research design & theory. Poor description of equipment & procedures.	Contribution is obscure and difficult to differentiate from previous work. Incomplete derivation of research design & theory. Adequate description of equipment & procedures.	Contribution sufficiently defined and differentiated from previous work. Coherent derivation of research design & theory. Appropriate description of equipment & procedures.	Notable contribution, clearly differentiated from previous work. Rigorous derivation of research design & theory. Good description of equipment & procedures.	Considerable contribution, easily differentiated from previous work. Eloquent derivation of research design & theory. Insightful description of equipment & procedures.	
Research Results and Conclusions 16%	Novelty, significance, and impact of results unclear. Methods and/or hypotheses poorly validated. Conclusions unclear from analysis of results.	Novelty, significance, and impact of results are vague. Methods and/or hypotheses sufficiently validated. Conclusions backed by analysis of results.	Novelty, significance, and impact of results conveyed. Methods and/or hypotheses clearly validated. Conclusions supported by analysis of results.	Novelty, significance, and impact well conveyed. Methods and/or hypotheses strongly validated. Conclusions corroborated by analysis of results.	Novelty, significance, and impact expertly conveyed. Methods and/or hypotheses convincingly validated. Conclusions verified by analysis of results.	
Mastery of Topic 16%	Incomplete understanding of research & presented work. Unsatisfying responses to questions and comments.	Competent understanding of research & presented work. Reasonable responses to questions and comments.	Solid understanding of research & presented work. Knowledgeable responses to questions and comments.	Adept understanding of research & presented work. Proficient responses to questions and comments.	Expert understanding of research & presented work. Skillful responses to questions and comments.	
Visual Aids 14%	Insufficient pictures, plots, figures, and tables. Visualizations inhibit communication of research.	Appropriate pictures, plots, figures, and tables. Visualizations enable communication of research.	Descriptive pictures, plots, figures, and tables. Visualizations serve communication of research.	Informative, quality pictures, plots, figures, and tables. Visualizations aid in communicating research.	Illuminating pictures, plots, figures, and tables. Visualizations enhance communication of research.	
Delivery Style 12%	Poor, distracting articulation, insufficient descriptors. Presentation style limits communication of research.	Rudimentary articulation, adequate descriptors. Presentation style permits communication of research.	Adaptive articulation, appropriate descriptors. Presentation style serves communication of research.	Illustrative articulation, strong descriptors. Presentation style supports communication of research.	Eloquent articulation, excellent descriptors. Presentation style optimizes communication of research.	

Notes/Comments:

Manuscript Rubric: ☐MEngr Project *or* ☐MS Thesis *or* ☐PhD Dissertation

Competency	Novice 1	Competent 2	Proficient 3	Master 4	Expert 5	Sub-Score
Abstract 12%	Poor, confusing summary of significance & methods. Results unclear, main conclusions poorly explained.	Summarizes significance and methods. Presents results with clear conclusions.	Efficient summary of significance and methods. Effectively summarizes results and main conclusions.	Good, clear summary of methods and significance. Strong summary of results and significant conclusions.	Captivating and strong summary of methods and significance. Excellent summary of results and main conclusions.	
Introduction 14%	Appropriate review of previous work with limitations identified. Unclear argument for importance of research. Goals and scope of work obscure.	Acceptable review of previous work with limitations identified. Sufficient argument for importance of research. Goals and scope of work adequately stated.	Descriptive review of previous work with limitations identified. Clear, sufficient argument for importance of research. Goals and scope of work precisely stated.	Good review of previous work with limitations identified. Convincing argument for importance of research. Goals and scope of work effectively defined.	Insightful review of previous work with limitations identified. Incontrovertible argument for importance of research. Goals and scope of work excellently elucidated.	
Research Methods 16%	Insufficient theoretical analysis & mathematical detail, poor use of figures/diagrams/images. Out-of-date equipment, procedures, and data collection. Author contributions unclear.	Adequate theoretical analysis & mathematical detail, appropriate use of figures/diagrams/images. Appropriate equipment, procedures, and data collection. Author contributions implied.	Proficient theoretical analysis & mathematical detail, good use of figures/diagrams/images. Advanced equipment, procedures, and data collection. Author contributions indicated.	Strong theoretical analysis & mathematical detail, strong use of figures/diagrams/images. State-of-the-art equipment, procedures, and data collection. Strong contributions signified.	Cutting-edge theory, analysis & mathematical detail, excellent use of figures/diagrams/images. State-of-the-art equipment, procedures, and data collection. Great contributions signified.	
Research Results 16%	Results validate methods and/or confirm hypotheses. Low-quality, insufficient plots, figures, and visualizations. Applies deficient statistical tools & analysis, unclear description of features of the results.	Results corroborate methods and/or confirm hypotheses. Appropriate plots, figures, and visualizations. Applies reasonable statistical tools & analysis, describes features of the results.	Results confirm methods and/or hypotheses. Good plots, figures, and visualizations. Applies modern statistical tools & analysis, presents significant features of the results.	Results validate methods and/or confirm hypotheses. High-quality plots, figures, and visualizations. Applies advanced statistical tools & analysis, highlights important features.	Results affirm methods and/or confirm hypotheses. Excellent, illuminating plots, figures, and visualizations. Applies innovative statistical tools & analysis, summarizes important features.	
Discussion and Conclusions 16%	Goals & scope not considered in discussion of results. Borderline conclusions with undefined limitations. Significance within field vague, suggested future work unclear.	Discussion of results consider goals & scope of work. Appropriate conclusions with some limitations mentioned. Defines significance within field, suggests future work.	Results interpreted in context of goals and scope of work. Logical conclusions with defined limitations. Explains significance within field, points to future work.	Results effectively evaluated in context of goals and scope. Compelling conclusions with clearly defined limitations. Significance strongly explained, future work directions outlined.	Results expertly evaluated in context of goals and scope. Indisputable conclusions with well-defined limitations. Significance expounded; future directions specified.	
Originality and Significance 14%	Insufficient theory, design, approach, or application. Negligible impact expected. Publication or IP not produced nor anticipated.	Sufficient theory, design, approach, or application. Minimal impact expected. Low-impact publication produced or anticipated.	Strong theory, design, approach, or application. Targeted impact expected. Publication and/or IP produced or anticipated.	State-of-the art theory, design, approach, or application. Significant impact expected. Significant publication(s) or IP produced or anticipated.	Innovative theory, design, approach, or application. Broad impact expected. Consequential publication(s) or IP produced or anticipated.	
Style and Mechanics 12%	Unclear, wordy, difficult to read & understand. Distracting grammar/spelling errors, poor use of voice and verb tense.	Reasonably clear and concise, some effort to read/understand. Some grammar/spelling errors, acceptable use of voice and verb tense.	Clear and concise, easy to read & understand. Minimal grammar/spelling errors, appropriate use of voice and verb tense.	Well-written, concise, easy to read & understand. Scarce grammar/spelling errors, good use of voice and verb tense.	Eloquent, concise, pleasure to read & understand. Absent of grammar/spelling errors, excellent use of voice and verb tense.	

Notes/Comments: