

UW-Madison Nuclear Engineering & Engineering Physics Graduate Handbook

Fall 2026

Department of
Nuclear Engineering
& Engineering Physics
UNIVERSITY OF WISCONSIN–MADISON

Effective Fall 2026

This handbook applies to students entering the program for the Fall 2026 Session and for subsequent sessions until superseded by a revised guide. Students admitted prior to this time should continue to follow the handbook that was in effect when they entered the program. They may petition the Department to select all features of a new curriculum.

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Preface

This handbook details the academic policies and procedures for students working toward the MS and PhD degrees in Nuclear Engineering and Engineering Physics. The first sections provide information on admission, academics, and degree requirements. The rest of the handbook, starting with the section on Graduate Policy-Related Web Sites, provides information and describes policies that promote the well-being of our graduate students.

Students should become familiar with the material in this handbook and with the policies and requirements of the Graduate School, (https://grad.wisc.edu/academic-policies/). It is the student's responsibility to make sure that all requirements are met and that all policies are followed.

Admission

For admission to graduate study in Nuclear Engineering and Engineering Physics, an applicant must have a bachelor's degree in engineering, mathematics, or physical science, and an undergraduate record that indicates an ability to successfully pursue graduate study. The Graduate School requires a minimum undergraduate grade point average of 3.0 on a 4.0 basis on the equivalent of the last 60 semester hours from the most recent bachelor's degree. In special cases, students with grade point averages lower than 3.0 who meet all the general requirements of the Graduate School may be considered for admission on probation. GRE scores are optional. Applicants may submit GRE scores, but are not required to do so. Applications without scores are not placed at a disadvantage. However, received scores will be considered as part of our holistic evaluation of applications. TOEFL/IELTS scores are required for international applicants.

It is highly recommended that students take courses that cover the same material as these UW-Madison courses before entering the program:

Course and Semester Credits	**Typical Courses**
Differential equations, 3 cr	Math 319 or 320
Advanced mathematics, 3 cr	Math 321
Fundamentals of Nuclear Engineering, 3 cr	NE 305
Materials science, metallurgy, or solid-state physics, 3 cr	MS&E 350 or 351
Heat transfer or fluid mechanics, 4 cr	CBE 320
Mechanics, 3 cr	Physics 311 or EMA 202

Descriptions of course content can be accessed through the University's course search and enrollment application (https://public.enroll.wisc.edu/search).

Students may enter without having taken these courses. However, in such cases the students must inform their advisors, who will help them plan courses of study that will provide adequate background for our department's graduate curriculum.

Provisions for admission on probation, or as an applicant for more than one master's degree (e.g., simultaneous MS degrees in two departments) are given in the Graduate School website: http://grad.wisc.edu .

Admission as a Special Student

The Graduate School will permit admission as a Special Student for students whose academic record is difficult to evaluate but otherwise show promise for graduate study. While graduate level work done as a Special Student does not earn Graduate School credit, it may still fulfill departmental course requirements. It can also be used to meet admission requirements and to correct weaknesses in the student's preparation for graduate study. After a satisfactory record as a Special Student, the student can then apply for admission as a graduate student. The student is advised to consult the Graduate School guidelines to determine the current policies and regulations.

Advising

Upon entering the program, each student will be appointed a faculty advisor by the chair of the Graduate Studies Committee (GSC). If the student is supported by a research assistantship, this will normally be the professor in charge of the research program. In other cases, the advisor will be a faculty member with expertise in the student's area of interest. Students desiring to change their faculty advisor should coordinate with the current advisor and the new advisor; see additional information in Change of Research Advisor. Students may have a research advisor outside the department if it is appropriate for a student's research area and if the professor is willing to serve in that capacity. In this case, the chair of the GSC also appoints a member of the Nuclear Engineering and Engineering Physics faculty to serve as the student's academic (non-research) advisor.

Graduate Student Services

Prospective Students:

Questions about the application process: neepgradadmission@engr.wisc.edu

Current Students:

For assistance with Graduate School requirements, warrant requests, student concerns, academic concerns, etc. contact:

- Anke Hawker-Keuser, Graduate Services Coordinator (Graduate Coordinator)
- keuser@wisc.edu
- +1 608 890 2420
- Wendt Commons (first floor/basement)

Term Enrollment Requirements

Full-time student status requires a student to enroll for a minimum of 8 credits numbered 300 and above, including research credits, each fall and spring semester until the student becomes a PhD dissertator. The normal maximum number of credits is 15. Dissertators must enroll for three credits during fall and spring semesters. (See https://grad.wisc.edu/documents/dissertator-status/ .) Summer enrollment requirements differ and depend on the student's funding (research, teaching, or fellowship appointment) and citizenship or visa status. International students should

also confirm their enrollment requirements with International Student Services (ISS), as visa status can impose additional requirements.

Holders of research assistantships, teaching assistantships, traineeships, or fellowships are required to maintain full-time status each semester. Research assistants are expected to register for at least two credits (3 credits for dissertators) during the summer session. Teaching assistants with summer appointments need not normally be registered during the summer. Fellowship holders should consult the terms for their fellowships. A full-time student is limited to 12 credits during the summer.

Grade Policy

The Graduate School requires an average record of B or better in all 300-level or above courses taken as a graduate student, regardless of whether a course counts for credit in the program. The Graduate School reviews each student's progress every semester and will usually refuse continued enrollment with below B average grades/GPA unless unusual or extenuating circumstances have prevailed.

The NEEP program requires grades of A, AB, B, BC, or C with a minimum GPA of 3.0 or above. Courses with grades of D or below will not be counted as satisfying degree requirements. These grades/GPA will however be counted in the graduate GPA. Pass/fail grades are not counted toward degree requirements. A minimum 3.0 GPA is required.

Also, all courses counting toward degree requirements must be taken for credit (not audit), and satisfactory/unsatisfactory grades are acceptable only for courses offered strictly on a S/U basis (such as NE 790, NE 890, and NE 990).

Graduate Student Seminar

PhD students must enroll in the Engineering Physics Colloquium (EP 920 or NE 922) for at least two semesters before passing their preliminary examination. Provided that students do not have a scheduling conflict, regular attendance of the Engineering Physics Colloquium is a professional expectation of our graduate students.

All NEEP graduate students are also expected to attend at least one additional research seminar or research group meeting where they may present their own research in a seminar format. First year graduate students are exempt from giving a presentation (although they may volunteer to give one), but all non-first-year graduate students are expected to present on an annual basis.

The goals of the presentation requirement include:

- Provide professional development opportunities for graduate students.
- Improve the oral presentation skills of graduate students.
- Improve the ability of graduate students to "think on their feet."
- Provide an opportunity for graduate students to further understand and explain the context of their research.
- Provide a forum in which conference presentations can be practiced in front of a large technical audience.

- Improve information exchange between research groups.
- Enhance the sense of community among students in the graduate programs within the NEEP Department.

Master of Science Degree

Requirements for the Master of Science in Nuclear Engineering and Engineering Physics

The MS degree requirements include coursework,* and for those who choose to complete a thesis, research, a written thesis, and a defense. All coursework for the MS is technical. It must be at the 400-level or greater, and requirements fall into the following areas: 1) specific courses, 2) "Grad 50%" designation, 3) NE courses, and 4) 500-level technical courses. Individual courses may satisfy requirements in more than one of these areas. Figure 1 provides a summary of the coursework requirements, which are detailed in the subsequent text.

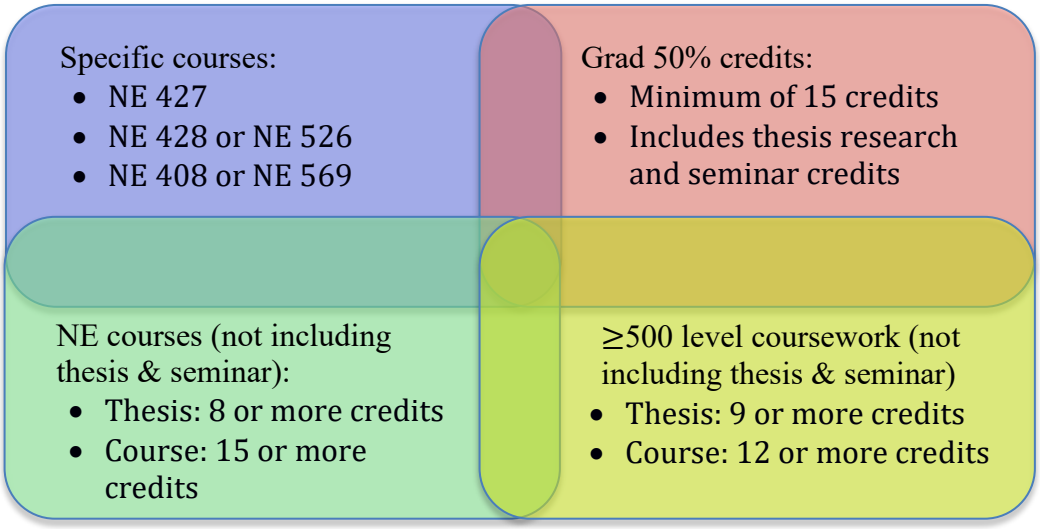


Figure 1. Coursework requirements for the NEEP MS degree fall into the categories shown by the colored boxes. Requirements designated "Thesis" indicate thesis track, and requirements designated "Course" indicate coursework-only track. All coursework must be at the 400-level or greater.

1. The following courses or courses with similar material content must be taken either prior to or during the course of study for the MS degree:
   a. Nuclear Instrumentations Laboratory, NE 427
   b. Nuclear Reactor Laboratory NE 428 or Laboratory Course in Plasmas NE 526
   c. Ionizing Radiation NE 408 or Health Physics and Biological Effects NE 569

* "Coursework" includes seminar and independent study but not credits for thesis research.

Students who have taken courses with similar material content at another institution, must contact the chair of the GSC for approval of the specific course(s).

2. Students must complete, during the course of graduate study, 30 credits of technical courses approved by their advisors. These courses must be consistent with the following requirements:
   a. Students must take at least 15 credits designated as "Grad 50%" from NE, Math, Physics, Chemistry, Computer Science, or any other engineering department, except EPD. "Grad 50%" courses are designated as such in the UW-Madison Guide, http://guide.wisc.edu/. They include 790 thesis credits.
   b. If the student completes a master's thesis, then
      i. At least 8 credits of NE courses at the 400 level or above are required. Cooperative Education, Thesis, and Seminar credits cannot be used to satisfy this requirement.
      ii. A maximum of 12 credits may be granted for the thesis.
      iii. The remaining credits (also numbered 400 or higher) must be in appropriate technical areas such as physical sciences, radiology, or suitable biological studies, but not humanities or social studies.
      iv. At least 9 credits must be numbered 500 or higher. Cooperative Education, Thesis, and Seminar credits cannot be used to satisfy this requirement.
      v. Up to 3 credits can be seminar credits.
   c. If the student does not complete a master's thesis, then
      i. At least 15 credits of NE courses at the 400 level or above are required. Cooperative Education, Thesis, and Seminar credits cannot be used to satisfy this requirement.
      ii. The remaining 15 credits (also numbered 400 or higher) must be in appropriate technical areas such as physical sciences, radiology, or suitable biological studies, but not humanities or social studies.
      iii. At least 12 credits must be numbered 500 or higher.
      iv. Up to 3 credits can be seminar credits. No more than one seminar credit can be taken in any given semester.
3. The courses taken as a graduate student must satisfy the departmental grade policy.
4. Only one course (maximum of 3 credits) of independent study is allowed (699, 999).
5. The candidate must satisfy all Graduate School requirements, including grade point average requirements.

Satisfying Requirements with Previous Coursework

With permission from their faculty advisors and the GSC Chair, students may use up to 6 credits of technical coursework taken as part of a graduate program at another institution if they meet departmental MS requirements.

With faculty approval, students who received their undergraduate degree from UW-Madison may apply up to 7 credits of coursework numbered 400 or above toward the minimum graduate degree credit requirement. This coursework will not count toward the 50% graduate coursework minimum unless numbered 700 or above, and it cannot count toward the minimum graduate

residence credit requirement. Coursework earned ten or more years prior to admission may not be used.

With permission from their faculty advisors and the GSC Chair, students with a BS from an ABET-accredited engineering discipline at another institution may use up to 7 credits of undergraduate work toward their MS degree.

Use and Restrictions:

1. In all situations, the Graduate School stipulates that only coursework earned within ten years of acceptance to a UW-Madison master's program may be considered.
2. Previously earned credits taken as an undergraduate or as a graduate may be used to satisfy the specific coursework requirements (NE 427, NE 428 or NE 526, and NE 408 or NE 569).

Research and Thesis Credits

NE 790 is for research that is expected to lead to a MS thesis, NE 890 is for PhD research where the student has not yet become a dissertator and the research will not be used for a MS thesis, and NE 990 is for PhD dissertation research, where the student is a dissertator. Credits taken per semester are variable. Students should discuss the appropriate number of credits for a specific semester with their advisors.

Master's Thesis

1. A master's thesis is not required. It is usually recommended for students intending to finish their graduate study with a master's degree and who are interested in research. Students should consult their advisors regarding the thesis and coursework-only degree options.
2. A maximum of 12 credits of NE 790 may be granted for a master's thesis. Credit for master's research (NE 790) will be granted toward meeting the MS requirements only when a formal MS thesis is submitted.
3. The Department requires that the MS thesis be submitted to the Graduate School for Minds@UW. See the Graduate School's information https://grad.wisc.edu/current-students/masters-guide/ and note the required additional forms.

Criteria for Satisfactory Progress

Students with a Bachelor of Science in Nuclear Engineering or equivalent are typically expected to complete the Master of Science degree in 3 semesters. Students with non-NE backgrounds will typically be permitted 4 semesters to complete their master's if more than 27 credits are required.

Procedures to Apply to Earn the Master's Degree

The following is a summary of some of the Graduate School requirements. This is not a complete list. Review the Graduate Guide (https://guide.wisc.edu/graduate/) and the Graduate School Academic Policies and Procedures for a complete list or contact the Graduate School.

Students need to be enrolled for a minimum of two graduate-level credits (300 or above) for a grade (audits and pass/fail do not satisfy this requirement) during the semester in which they intend to graduate. For more information and for deadlines see *Completing Your Master's Degree,* found at the website https://grad.wisc.edu/current-students/masters-guide/ .

To receive the degree, contact the NEEP Graduate Coordinator, at the beginning of the semester in which you intend to graduate. Have your faculty advisor confirm that you have met the Department requirements, then have the Graduate Coordinator verify that you have met the Graduate School's requirements. Submit a warrant request form (available from go.wisc.edu/neep-current-students) at **least four weeks prior** your defense or the end-of-semester deadline, whichever comes first. The Graduate Coordinator will then request a warrant from the Graduate School.

If you have a prior master's degree from this University, you must submit, along with your degree application, a letter from each department that includes an official (signed by advisor or GSC Chair) list of courses used for each degree. Your warrant application is not complete until the two lists are received.

You must have a graduate GPA of at least 3.0/4.0 and no incomplete (I) or progress (P) grades on your record.

A signed warrant is a document that is needed to graduate. The warrant is issued by the Graduate School for one semester only. The warrant is signed by your academic advisor and defense committee (if applicable), indicating that all degree requirements have been met. Warrants can only be issued after all incomplete and progress grades are cleared.

If the Department has signed and returned your warrant to the Graduate School, and you subsequently receive an incomplete or progress grade, you will graduate during the semester in which your grade is cleared.

Doctor of Philosophy Degree

PhD requirements consist of coursework, passing a qualifying exam, a doctoral plan, a research proposal/preliminary exam, research, a written dissertation, and defense. These requirements are described in the following subsections.

Credit Requirements

Students must take a minimum of 51 credits (consisting of coursework and 890/990 credits) with at least 26 credits being graduate level (designated as “Grad 50%”).

Unless specified, all courses must be numbered 400 or above in appropriate technical areas. Appropriate technical areas are: Engineering departments (except Engineering and Professional Development), Physics, Math, Statistics, Computer Science, Medical Physics, and Chemistry. Other courses may be deemed appropriate by a student's faculty advisor. (This policy does not apply to courses satisfied by the research focus coursework).

Coursework Requirements

The NEEP PhD coursework† consists of the following areas: 1) nuclear engineering courses (taken prior to admission or during program), 2) four core area courses, 3) 18 credits of technical coursework level 500 and above, 4) 9 credits of technical depth coursework level 700 and above, 5) 24 credits of research focus area coursework, 6) Graduate School Breadth Requirement, and 7) research credits (optional). Individual technical courses may satisfy more than one of areas 1-6.

† “Coursework” includes seminar but not credits for thesis research. PhD students do not take independent study, apart from up to 3 credits completed for a MS degree in our program.

Students are required to complete a minimum of 51 credits. Within these 51 credits, at least 36 credits must be Lecture and Seminar Coursework as explained below.

1. Nuclear Engineering Course Requirement: The following courses or courses with similar material content must be taken either prior to or during the course of study for the PhD:
   a. Nuclear Instrumentations Laboratory, NE 427
   b. Nuclear Reactor Laboratory NE 428 or Laboratory Course in Plasmas NE 526
   c. Ionizing Radiation NE 408 or Health Physics and Biological Effects NE 569

   Students who have taken courses with similar material content at another institution must contact the chair of the Graduate Studies Committee for approval of the specific course(s).
2. Core Areas Requirement: The candidate is required to complete one course in each of the following areas:
   - Fission Reactors (for instance, NE 405, 408, 411, 506, 520, 550, 555, 565, 574)
   - Plasma Physics & Fusion (for instance., NE 525, 527, 528, 536)
   - Materials (for instance., NE 423, 541, EP 562, Physics 551)
   - Engineering Mathematics & Computation (for instance, EP 547, 548; CS 513, 514, 713; Math 703)

   The courses listed in parentheses are examples of courses that will meet this requirement and are not meant to be a restricted list of possible courses. These courses must be taken as a graduate student and be at the 400 level or above. If a student has taken one or more of the courses in some area as an undergraduate student, they would need to take another course in the same area. Students possessing substantial background in any of the four areas may request to be excused from the requirement to take a course in that area either by petition to the GSC Chair.
3. Research Focus Area Requirement: Complete minimum 24 credits of Research Focus coursework directly related to the student's research (explanation on how courses contribute to research and faculty advisor approval required through the doctoral plan). NE 408 (Ionizing Radiation) and NE 427 (Nuclear Instrumentation Laboratory) automatically count toward the Research Focus Area for any student, with no written justification required. Non-technical coursework is not required within the degree. However, with faculty advisor approval, students may choose a maximum of 6 credits of non-technical coursework to satisfy credits within the 24 credits of Research Focus Requirement and/or the Graduate School Breadth Requirement.
4. Technical Courses level 500 and above: The candidate is required to complete at least 18 credits of appropriate technical coursework level 500 and above from any department and approved by their faculty advisor.
5. Technical Depth Courses level 700 and above: The candidate must take at least 9 credits appropriate technical coursework level 700 and above from any department and approved by their faculty advisor.* Doctoral students may take additional advanced courses as appropriate to their particular field of specialization.
6. Graduate School Breadth requirement: All doctoral students are required to complete a doctoral breadth requirement. In consultation with, and approval by, the graduate faculty

advisor/department, students should select one of the following options:

a. Option A (External Minor): Fulfillment of this minor requires approval of the doctoral minor program. This minor must be outside of the student's doctoral major program. Courses may also count toward the Research Focus Area when they directly support the PhD research. A course used for the External Minor may also satisfy a Core Area requirement.

b. Option B (Distributed Minor outside NEEP): Fulfillment of this minor requires a minimum of 9 credits at the 400 level or above, from two or more departments outside NEEP, selected for their relevance to a particular area of concentration. These courses may overlap with the Research Focus Area. A course used for the Distributed Minor may also satisfy a Core Area requirement. This option is intended for multidisciplinary PhDs, where breadth is essentially built into the thesis topic.

c. Option B′ (Distributed Minor including NEEP)**:** Fulfillment requires a minimum of 9 credits at the 400 level or above from two or more departments, including NE courses. Courses used for Option B′ may not overlap with the Research Focus Area. Because a NEEP student's Research Focus already lies within NEEP, allowing the NE courses counted as breadth to overlap the Research Focus Area would leave no genuine breadth. Students must briefly justify how the NE courses counted as breadth differ from those in their Research Focus Area. A course used for the Distributed Minor may also satisfy a Core Area requirement.

d. Option C (Graduate/Professional Certificate): Requires successful completion of a graduate/professional certificate in a program outside of the student's doctoral major program.

* Appropriate technical areas are: Engineering departments (except Engineering and Professional Development), Physics, Math, Statistics, Computer Science, Medical Physics, and Chemistry. Other courses may be deemed appropriate by a student's faculty advisor.

Research Courses (890 / 990)

Candidates may apply up to 15 research credits (890 / 990) toward the 51 credits requirements of the PhD curriculum. However, students may enroll in and complete as many research credits as deemed necessary or desired. Research credits are graded Satisfactory (S) / Unsatisfactory (U). Credit is only earned for terms in which S grades are awarded.

Satisfying Requirements with Previous Coursework

All credits earned toward the NEEP MS degree at UW-Madison apply toward the NEEP PhD, provided that they satisfy the Graduate School's time constraint. The following applies to other situations where an MS degree has been earned.

With advisor and NEEP GSC approval, students may use up to 15 credits of prior MS coursework toward the PhD, provided that all of the following are met.

1. The student has completed an MS degree in a relevant field.
2. The coursework proposed by the student is at the graduate level and was taken as part of the student's completed MS program.
3. The student's faculty advisor agrees that the prior coursework proposed by the student satisfies the NEEP PhD program requirements in terms of subject area and rigor.

4. A member of the NEEP GSC who is familiar with the NEEP PhD program confirms the advisor's recommendation.

Students who have not completed an MS in a relevant field are eligible to apply for credit for other previous coursework, according to the policies outlined in Satisfying Requirements with Previous Coursework of the MS section of this handbook.

The following restrictions apply to all use of previously earned credits for satisfying PhD requirements.

Use and Restrictions:

1. In all situations, the Graduate School stipulates that only coursework earned within ten years of acceptance to a UW-Madison PhD program may be considered.
2. Previously earned credits taken as an undergraduate or as a graduate may be used to satisfy specific coursework requirements (NE 427, NE 428 or NE 526, and NE 408 or NE 569).
3. Previously earned credits may not be used to satisfy depth (including all 700+) requirements.
4. Previous coursework may not be used to satisfy the minimum NE credits listed in the NEEP MS requirements unless 1) the student has completed an MS in nuclear engineering or 2) the student has completed courses in all relevant NE topics offered at UW-Madison.
5. For the breadth requirement of the NEEP PhD, students may not apply previously earned credits.

Graduate School Breadth Requirement

The Graduate School Breadth Requirement should generally provide breadth beyond the student's major area, *i.e.*, the Research Focus area. Overlap of coursework with the Research Focus Area is governed by the option selected below. The topic should be chosen in consultation with the faculty advisor, and it must be approved by the chair of the NEEP GSC.

The *PhD Minor Agreement Form* must be on file with the NEEP Department halfway through the minor program. Forms are available from the department website, go.wisc.edu/neep-current-students . The *PhD Minor Agreement Form* is separate from the official declaration process explained below in each minor type. Both processes are required. The Graduate School Breadth Requirement will appear on the official transcript.

There are four Graduate School Breadth options available: All doctoral students are required to complete a doctoral breadth requirement. In consultation with, and approval by, the graduate faculty advisor/department, students should select one of the following options:

a. Option A (External Minor): Fulfillment of this minor requires approval of the doctoral minor program. This minor must be outside of the student's doctoral major program. Courses may also count toward the Research Focus Area when they directly support the PhD research. A course used for the External Minor may also satisfy a Core Area requirement.

b. Option B (Distributed Minor outside NEEP): Fulfillment of this minor requires a minimum of 9 credits at the 400 level or above, from two or more departments outside NEEP, selected for their relevance to a particular area of concentration. These courses may overlap with the Research Focus Area. A course used for the Distributed Minor may also satisfy a Core Area requirement. This option is intended for multidisciplinary PhDs, where breadth is essentially built into the thesis topic.

c. Option B′ (Distributed Minor including NEEP)**:** Fulfillment requires a minimum of 9 credits at the 400 level or above from two or more departments, including NE courses. Courses used for Option B′ may not overlap with the Research Focus Area. Because a NEEP student's Research Focus already lies within NEEP, allowing the NE courses counted as breadth to overlap the Research Focus Area would leave no genuine breadth. Students must briefly justify how the NE courses counted as breadth differ from those in their Research Focus Area. A course used for the Distributed Minor may also satisfy a Core Area requirement.

d. Option C (Graduate/Professional Certificate): Requires successful completion of a graduate/professional certificate in a program outside of the student's doctoral major program.

PhD Progression Requirement

The purpose of the PhD progression requirement is to confirm that students are sufficiently well prepared to pursue a doctoral degree. The process may also identify areas of the chosen research field where students need additional education and training.

Progression Committee: With input from the student's faculty advisor, the Department will appoint a committee of three NEEP faculty members, including the advisor, for each new PhD student. At most, only one of the three members of the committee may be either a formal affiliate or an emeritus faculty member of the NEEP Department. Committees are appointed during the student's first semester.

Core Competency Coursework: The first task of each committee is to identify three of the classes to be taken at UW-Madison as part of the technical coursework requirements of the NEEP PhD degree that represent core competencies for the student's research ambitions. The classes will be taken in the first year of PhD study. The chosen courses must cover at least two of the four Core areas of 1) fission reactors, 2) plasma physics & fusion, 3) materials, and 4) engineering mathematics & computation.

After the second semester, the committee reviews the student's academic performance, and the advisor informs the other committee members of the student's research activities. If the committee finds that the student is sufficiently well prepared, the student will take the oral qualifying exam before the end of the third semester, not counting summer terms. The advisor is responsible for scheduling the exam for the student and the committee, with the support of the GSC. If a deficiency is noted in a designated core area for a student, the committee will make a recommendation to take additional classes or formal independent study (NE 699) during the third semester, and the student will take the oral qualifying exam during the fourth semester.

For students that matriculate in the MS program but are later accepted into the PhD program, progression committees will be assigned after the PhD program is formally added to the student's record by the Graduate School. The committee then decides whether subjects taken during the MS program at UW-Madison cover two core competencies for the student's PhD research. Committees will then evaluate progress in these areas and either recommend further coursework or taking the qualifying exam.

Oral Qualifying Examination: The qualifying examination gives students the opportunity to demonstrate that they have sufficiently assimilated the foundational knowledge needed to pursue original and creative independent doctoral research. The oral format assesses not only what the student knows, but also their ability to synthesize and apply core concepts in real time. Successful

completion indicates that the student is prepared to move beyond coursework into the open-ended intellectual demands of PhD research.

Examination Format: An oral exam is required for all students and will be graded on a pass/fail basis for each subject area. The exam is conducted by the student's progression committee and is to be scheduled within one semester (excluding the summer term) after the committee provides a favorable recommendation. The oral exam lasts one hour with approximately 20 minutes for each of the three course subjects identified by the student's committee. Exam problems emphasize application of fundamentals and assimilating information for each subject. Students needing special accommodations should follow University policy. See Accommodations for Students with Disabilities.

Practice Sessions: Students may request one formal practice session per core topic (approximately 20-30 minutes). It is recommended that this session be conducted with one of the faculty examiners for that topic; if scheduling is difficult, the student may reach out to another faculty member with expertise in that area. The purpose of the practice session is to help students understand the format, expectations, and dynamics of the oral qualifying examination, rather than to rehearse specific exam questions. Students are encouraged to schedule practice sessions early, ideally 3-4 weeks before the exam, and to contact examiners as early as possible; as a best practice, students should copy their advisor when requesting a session. Formal practice exams are not provided for retakes; further preparation in those cases is guided by the advisor, who may offer informal preparation, and by student peers.

Exam Rubric: See Appendix B for details on how committee members evaluate student performance.

Criterion for Passing: After each attempt, the committee will deliberate and results are not conveyed on the day of the exam. Subjects are graded, separately, meaning that students can pass or fail each subject. Students must achieve ratings of at least "meets expectation" in all 3 rubric items to pass a specific subject. Students will receive a copy of the evaluation form within 5 business days after the exam and after the form is signed by all committee members, along with an official letter from the department's chair detailing the exam outcome. Advisors will meet with students to review the exam's outcome and make recommendations on preparing for any subjects that need to be retaken.

Retaking the Exam: Students can retake exam subjects that were failed on a previous attempt. Students do not retake exam subjects that were successfully passed in the first attempt. Students are not allowed to change exam topics after the first attempt. A second attempt is always granted. The retake must be taken by the end of the semester following the unsuccessful attempt, and may be taken in the same semester if the student is ready. For a failed attempt, the written outcome will identify the specific subject(s) to be retaken and include the signed evaluation form. If more than one subject must be retaken, the next exam covers all subjects not previously passed at 20 minutes per subject, and all three committee members must be present for every attempt regardless of the number of subjects tested. Should a student fail a subject a second time, the student may petition the Department for a third and final attempt, explaining why it is warranted.

Accommodations for Students with Disabilities: The PhD qualifying exam policy for students with disabilities follows the accommodations made for coursework. See Accommodations for Students with Disabilities.

Doctoral Plan of Study

The Department will formally accept a student as a candidate for the PhD after the passage of the qualifying examination and upon approval of a doctoral plan of study showing the intended courses of study. The format is provided in the online spreadsheet at https://intranet.engineering.wisc.edu/nuclear-engineering-engineering-physics/neep-current-student-information/. The Departmental faculty will review the student's entire academic history. It will act on the application based on its collective knowledge of the student's performance in and out of formal coursework. Factors which will be considered include: (a) whether the student would likely profit from further, formal academic study, and (b) whether the student meets the high academic standards and the standards of intellectual integrity expected of a PhD holder from the University of Wisconsin-Madison. This is a decision of the Department as a whole, and while the advice of the student's faculty advisor is solicited, the advisor does not make the decision alone. The student is expected to discuss the doctoral plan in detail with and receive approval of the faculty advisor to develop a coherent academic plan of doctoral study.

Approval of the student's proposed course of study will automatically indicate acceptance by the Department as a PhD candidate, and the student will be advised in writing. Attention is called to the fact that formal acceptance as a candidate, rather than passage of the qualifying examination, ordinarily constitutes the major step in progress towards the PhD.

Note: To ensure that a coherent program is planned, the student must submit the doctoral plan of study one month before the end of the semester following the one in which the qualifying exam is passed.

If a distributed minor (Options B and B') is proposed, acceptance as a PhD candidate constitutes Departmental approval of that minor. Students must still officially request to add the distributed minor via the Graduate Student Portal.

If it becomes necessary to modify the student's proposed course of study after it has been approved, it is the student's responsibility to bring the matter to the attention of the faculty advisor and GSC in writing.

Note: The Graduate School considers an applicant formally admitted to candidacy for the PhD degree when the student has:

(a) Passed the comprehensive preliminary examination in the major field,

(b) Obtained approval of the proposed Graduate School Breadth Requirement , and

(c) Presented the title or special field of the proposed thesis, approved by the faculty advisor.

Note: The approved and signed doctoral plan should be submitted to the NEEP Graduate Coordinator immediately after department approval.

PhD Preliminary Examination

After acceptance of a student's doctoral plan of study, the student must take the PhD preliminary examination. Its purpose is to determine whether the student has identified a relevant research topic with scientific and/or technological significance and a realistic approach of addressing the topic. The student must also demonstrate sufficient background knowledge and establish the feasibility of the proposed research in terms of skills, resources, and a practical timeline.

Students are expected to pass the preliminary examination no later than the end of the third year of graduate studies or by the end of the second regular semester following the one in which the PhD qualifying examination is passed, whichever is later. Students are encouraged to complete the preliminary examination as soon as possible, but they must take it within four years of passing the qualifying examination (see Criteria for Satisfactory Progress).

The NEEP preliminary exam has the form of a research proposal, including a written proposal document and an oral presentation. The format provides an opportunity for feedback and recommendations from the student's committee. The recommended format of the written document‡ is based on professional proposals to agencies that fund research:

Title page

1. Executive summary
   - Summarize the motivation, objectives, and methodologies of your PhD research project over no more than two pages.
   - While it can be helpful to prepare this part of the proposal last, have the project motivation and objectives in mind first.
2. Introduction
   - Address the opportunities and challenges that motivate the proposed research.
   - Describe the objectives of the research.
3. Background
   - Review publications related to the proposed research.
   - Develop a narrative that relates developments in the field to each other and how they lead to the proposed effort.
4. Project status
   - Describe preliminary developments that enable the research project or that already contribute to addressing project objectives.
   - Identify any areas of concern that have been encountered.
5. Proposed tasks
   - Describe the envisioned research activities, including methods that will be employed and what scientific/engineering questions will be addressed.
   - List the equipment and computational facilities that are required and where they are housed.
   - Describe unique challenges, risks, and planned mitigation strategies in accomplishing the research.
   - Directly relate the proposed tasks to the project objectives.

Timeline and other project management information

Bibliography

The oral presentation needs to cover the same information. However, the organization of the executive summary, introduction, and background material may be rearranged to facilitate the presentation.

An examination committee assesses the written document and the oral presentation. The examination committee is normally the same as selected for the final oral examination (see below).

‡ Individual faculty advisors may have other recommendations, such as page limits, having an abstract vs. an executive summary, document formatting, and bibliography length. Students should consult their faculty advisors.

It includes members from at least two UW-Madison Graduate School degree programs (see https://grad.wisc.edu/academic-programs/), including the student's major degree program, and the chair or co-chair must be a member of the student's major program. The committee membership is selected to make a critical evaluation of the proposed thesis. All committee members must receive a copy of the written proposal at least 10 days prior to the presentation.

Students should recognize that substantial research progress is not a Department requirement for passing the preliminary examination. The expectation is a sufficient level of accomplishment to establish the feasibility of the project through the methods that are described.[§] This proposal-based exam is an opportunity to plan remaining research through completion of a significant outcome, and committees provide constructive feedback that help students achieve their objectives.

Warrant: The candidate must apply for a warrant from the NEEP Graduate Coordinator, at least four weeks prior to the exam. The form is available from the NEEP intranet pages. The NEEP Graduate Coordinator needs a signed copy of the department approved Doctoral Plan and the minor must be officially declared through the Graduate School and the student must have completed at least two semesters of enrollment in EP 920 or EP 922 before a preliminary exam warrant can be requested.

Should the candidate not pass the preliminary examination, the student is granted an opportunity to address the committee's concerns. The second presentation must be held within six months of the first examination, and the revised document must be provided to the committee at least 10 days prior.

Dissertator Status

All PhD candidates who passed their preliminary examination and have completed the major as well as the Graduate School Breadth Requirement requirements can be designated dissertators. Dissertators register for exactly three credits. (See https://grad.wisc.edu/documents/dissertator-status/.) Dissertators normally enroll in thesis and research courses (NEEP990), but with the approval of their advisors are permitted to substitute three credits of any other graduate level courses.

Continuous Enrollment: Dissertators should register each semester until the PhD thesis is filed. If the student fails to do so, a PhD Dissertation and Degree Completion Fee equal to 12 times the current dissertator per-credit rate is required.

Final Oral Examination

An oral examination on the findings of the PhD research is required at the end of the thesis work. This thesis defense is made before a committee of at least five members, who have had access to a copy of the thesis for at least 10 days prior to the oral examination. It is advisable to choose this committee as close to that of the preliminary examination committee as practical. At least 4 of the committee members must be members of the UW-Madison Graduate Faculty. The committee must include members from at least two of the UW-Madison Graduate School degree programs. The chair or co-chair must be a member of the student's major degree program, and at least 3 of the committee members must be members of the Nuclear Engineering & Engineering Physics faculty.

[§] Students should also discuss the extent of preliminary research progress with their faculty advisors, as there is some variation of expectations among the faculty members.

One of the members of the committee may be from outside the UW-Madison, subject to approval by the Nuclear Engineering & Engineering Physics Faculty. (Departmental requirements exceed the Graduate School minimum requirements at https://grad.wisc.edu/documents/committees/ .)

Warrant: The candidate must apply for a warrant from the NEEP Graduate Coordinator, at least four weeks prior to the exam. The form is available from go.wisc.edu/neep-current-students .

This examination shall be publicly announced at least one week prior to the examination date. Faculty and students are invited to attend, and guests are also welcome to attend the open session of the exam.

Thesis

The thesis must be the candidate's own work; it reports on the original research carried out by the student for the PhD degree. It may be the result of research enterprises in which others have collaborated, but in such cases the candidate is required to present a substantial portion which represents the candidate's own contribution.

The total cost and preparation of the thesis is the responsibility of the student. Detailed instructions for thesis preparation are available on the Graduate School webpage: https://grad.wisc.edu/current-students/doctoral-guide/ .

University Copy: The submitted thesis must meet the specifications of the Graduate School. See the above link for detailed information.

Department and Faculty Advisor Copies: You should provide copies of the thesis to the department and your advisor, and they should be bound in durable black Buckram binding with hard cover (Grimm's book binding can do this or check with the library for this service.) The student's name, degree and year of graduation should be printed in bold gold letters on the book spine. The front and back covers should remain blank.

Industrial/Research Sponsor Copy: The faculty advisor will determine if additional copies are needed. He/she will also advise the student as to the specifications of the copy.

Criteria for Satisfactory Progress

It is important that graduate students make satisfactory progress in their program of study. One measurement of the student's progress is his or her schedule for completing various requirements for the PhD degree. The relevant deadlines are listed below. Students not meeting these deadlines are considered to not be making satisfactory progress and may become ineligible for financial support and/or may be dropped from the program.

1. The qualifying examination must be first taken no later than completion of the MS requirements, or the beginning of the fifth semester of graduate study, whichever comes first. Students entering the program with a master's degree in EP or NE, and taking the qualifying exam in that same major, must take the exam by the beginning of their third semester.
2. The Graduate School Breadth Requirement Form must be on file with the NEEP Department halfway through the minor program.
3. Students are expected to submit the Doctoral Plan of Study one month before the end of the semester following the one in which the qualifying exam is passed.
4. Students are expected to schedule and pass the PhD preliminary examination no later than the end of the third year of graduate studies, or by the end of the second regular semester

following the one in which the PhD qualifying examination is passed, whichever is later. A candidate who fails to take their preliminary exam within four years of passing their qualifying exam must retake the qualifying exam unless there are extenuating circumstances (such as medical) and the Department faculty approves a delay. Students in this situation should meet with their advisor and develop a plan for taking the preliminary exam, subject to approval by the Department faculty.

5. A candidate who fails to take the final oral examination and deposit the dissertation in the Memorial Library within 5 years after passing the preliminary examination must take another preliminary examination. See the Graduate School's policies on preliminary examinations and time limits for additional information.

Satisfactory Progress in Research: Progress in research is evaluated by a graduate student's faculty advisor and is officially recorded in grading for research credits. The NEEP Department's procedures for unsatisfactory progress are as follows:

1. Upon first occurrence of a grade of U (unsatisfactory) in any of 790 (MS thesis), 890 (pre-dissertator), and 990 (dissertator) research, the faculty advisor will notify the Department's Graduate Performance Review Committee (GPRC) and submit a copy of each annual performance record for that student to the GPRC. The GPRC will then meet with the faculty advisor to discuss the student's research performance and what steps are planned to help the student achieve a satisfactory level of progress in research. The faculty advisor will then meet with the student to communicate the plan with the student.
2. Upon any subsequent occurrence of a grade of U in 790, 890, or 990 research, the faculty advisor will again notify the GPRC and resubmit annual performance records. The GPRC will meet with the faculty advisor to decide whether to end the student's PhD candidacy. The faculty advisor will inform the student of the GPRC/advisor decision. The GPRC will document its recommendations, including justifications and materials reviewed, and submit the recommendations to the Department Chair. The student will also be provided with the documented recommendations.
3. If the student disagrees with a decision to end PhD candidacy, within 10 days of being notified of the decision, he or she may submit a written petition to the GPRC that clearly describes specific efforts made to improve performance and how continuation of PhD candidacy will lead to a satisfactory research outcome. The GPRC will then decide whether to 1) grant an extended research-probation period under the same faculty advisor, 2) grant a research-probation period under a new faculty advisor, or 3) retain the original decision. The GPRC will notify the Department Chair of its recommendation.
4. If an extension period is granted, the current faculty advisor will conduct a performance review with the student at the end of the period. The advisor will then meet with the GPRC, which will decide to either reinstate the student to non-probationary PhD candidacy or end the student's PhD candidacy. The GPRC will notify the Department Chair of its recommendation.

A PhD student whose candidacy has been ended due to unsatisfactory research progress may remain eligible for an MS degree, but the student loses his or her guarantee of assistantship support. Students must officially request to change from the PhD program to the MS program via the Graduate School Add/Change Program request process.

Minor in Nuclear Engineering

For students in other departments seeking a minor in NEEP the following requirements apply:

1. A student who has earned an MS degree in NEEP will be considered to have fulfilled the minor requirements.
2. A minimum of four NE courses, 400 level or above, are required for the minor. These are decided in consultation with the student's advisor.
    a. All courses used for the minor must be 400 level or above and taken after the bachelor's degree.
    b. Ordinarily only one course (maximum of 3 credits) of independent study is allowed (699, 999).
    c. Research and thesis courses may not be used for the minor.
    d. No more than 5 credits completed 5 or more years prior to admission to the Ph.D. major may be used.
    e. Courses taken 10 or more years ago may not be used.
    f. Courses taken pass-fail or for audit may not be used.
    g. Courses with grades of S given in courses graded on a credit/no credit basis are acceptable.
3. A GPA of 3.0 must be maintained for the minor.
4. A maximum of 6 credits may be transferred from other institutions to satisfy the minor requirements.
5. The minor program must be approved by the Minor Program Advisor, appointed by the Department Chair. The approval form is available from the department website, go.wisc.edu/neep-current-students .

The NE Minor must be officially declared before it can be earned. Begin the declaration process early in your PhD career. To declare the NE minor, follow these steps:

1. Access the Graduate School Add/Change Program form in your MyUW. Request to "Add" the NE doctoral minor.
2. Contact the NEEP Graduate Coordinator to obtain the NE minor coursework approval form.
3. Fill out the form as indicated and return it to the NEEP Graduate Coordinator.
4. The NEEP Department will review your request and make a decision.
5. You will be notified via email of the decision and the following steps.

Contact the NEEP Graduate Coordinator with any questions on the minor and on the declaration process.

Graduate Policy-Related Web Sites

The Graduate School web site (https://grad.wisc.edu) has extensive information concerning policies and procedures for graduate students. Students are responsible for consulting these policies and procedures and for abiding by them.

Other useful web sites are:

Department of Nuclear Engineering & Engineering Physics
College of Engineering
Graduate student wellness
NEEP Current Student Information
Engineering Student Services

Graduate Student Mentor/Mentee Expectations for Nuclear Engineering and Engineering Physics

The primary purpose of having this written set of expectations is to lay the foundation for mutually beneficial professional relationships between graduate students and their faculty mentors. Students rely on their mentors to help them learn the information and skills that will make their careers successful, and mentors rely on students to help perform research and teaching activities.

Expectations stemming from the graduate program

- Time to degree completion:
    - The target average time to complete our PhD programs is five to six years (less for those starting with an MS degree in a relevant program). Students are encouraged to complete their degrees in less time if it does not sacrifice the quality of the work.
    - Students in research-oriented MS programs are expected to complete their degrees in 1 ½ to 2 ½ years. Students in accelerated MS programs are expected to complete their degrees in 1 to 1 ½ years.
- Funding: For PhD students matriculating with an assistantship offer in the Fall 2019 semester or later, there is a period of guaranteed support of 5 years for those entering with a bachelor's degree and 3 years for those entering with an MS degree. However, the student can expect the Department to make every effort to provide some form of support through degree completion, even if a student requires more time than the guaranteed period. In all cases, a student must maintain satisfactory progress toward the PhD degree, according to the NEEP program policies and the Graduate School's policies to continue to receive funding.
- Facilities and other support: For all PhD students, research-oriented MS students, and other graduate students supported by assistantships, the Department and research group will provide work facilities for professional activities, including suitable office spaces, throughout the degree program. Project-specific resources, such as laboratory equipment and computational resources, are the responsibility of the graduate mentor.

Academic staff: The graduate coordinator for your program provides assistance with requirements of the Graduate School, enrollment, and administrative aspects of degree completion. Department staff help with assistantships, payroll, benefits, work-related travel and purchasing, and reimbursements.

Expectations of the graduate advisor

- Faculty advisors will exercise the highest standards when working with all students.
  - They will uphold the University's statement on diversity (diversity.wisc.edu) and treat students fairly and without bias in accordance with Graduate School policies (grad.wisc.edu/academic-policies).
  - They will not display hostile and intimidating behavior (HIB, https://hr.wisc.edu/hib) when interacting with students.
  - They will participate in recurring training for HIB, bias, and professional ethics.
- Advisors will develop a set of specific expectations pertaining to their research groups and their research activities.
- Advisors will hold individual meetings with their graduate mentees.
  - Advisors will meet, regularly, with their graduate students to provide feedback on progress toward research objectives. While group meetings may also help provide feedback, they are not replacements for individual meetings.
  - Advisors will provide timely guidance to their mentees on progress toward degree completion, including course planning, qualifying exams, thesis proposal, thesis committee, thesis preparation and defense.
  - Advisors will provide performance evaluations to each graduate mentee, at least annually. Advisors will record their annual evaluations in the College of Engineering's Graduate Online Assessment and Achievement Learning System and review the evaluation, individually, with each student.
- Advisors will ensure a healthy working environment for their mentees.
  - This includes physical safety and workload expectations that are fair and allow students to balance research and academic requirements with a healthy lifestyle.
  - Advisors will respect Graduate School policy that research assistantships are for performing work that is relevant to the student's course of study with occasional other duties that are not to exceed 5 hrs/week (grad.wisc.edu/documents/research-assistant).
  - Advisors will allow students the equivalent of at least one day off from assistantship duties per week.
  - Advisors will accommodate temporary periods of intense coursework activity, such as exam periods.

Advisors will recognize students for their contributions to a research program. This recognition comes in the form of authorship/co-authorship of journal publications and reports and supporting students to present research findings at professional meetings and conferences.

Expectations of the graduate student

- Although graduate mentors and academic staff provide guidance, students are responsible for their own education and for satisfying degree requirements of the Graduate School and of their graduate program.
- Students are expected to develop, over time, the professionalism that is critical for success in their future careers. Working with high ethical standards is expected throughout the graduate program.
- Students are expected to be able to develop a work schedule that allows for a healthy work-life balance. Nonetheless, the pursuit of research may demand:

  - Occasional periods of intense workload to meet important deadlines--this should not be routine.
  - Long experimental campaigns, possibly requiring overnight supervision--if this is needed on consecutive days, the responsibility will be shared with group members taking shifts.
- Students on assistantships are expected to perform their duties, despite coursework requirements.
  - They should expect that coursework and assistantship duties amount to a full-time professional commitment.
  - They should consult faculty advisors for guidance on course loads that are commensurate with assistantship responsibilities.
  - They should coordinate, in advance, workload adjustments to accommodate temporary periods of intense coursework activity.
  - Students on assistantships need to coordinate absences and vacations with their faculty advisors in advance.
- Thesis MS and PhD students are expected to engage in formal and informal professional development activities, including performing research, documenting research, contributing to team aspects of a research group, interacting with other experts and peers in their discipline, reading relevant publications, and attending and presenting research at meetings and conferences.
- Students are expected to attend individual and group meetings held by their faculty advisor.
- The dissertator period of the PhD program provides students with an opportunity to focus on research and on completing their PhD dissertations. Students are expected to work full-time on research and writing, with a strong work ethic, during this period of the program.

Afterword

A set of expectations would be inconsequential if there were no recourse for not meeting them. When faculty advisors find that students are not meeting expectations, they will provide direct, individual feedback and document the findings in performance evaluations, if needed. Further recourse would follow the Department's policy on Satisfactory Progress in Research that is described in the graduate handbooks.

If students find that their graduate advisor is not meeting expectations, they are encouraged to bring the matter to the attention of the graduate advisor. If they feel uncomfortable doing so or would like another perspective, they should seek advice from one or more members of the Department's Graduate Studies Committee or from the Department Chair. If the gravity of the situation warrants, students should follow the Department and College grievance procedures.

Change of Research Advisor

There are situations where research-MS students or PhD students will change advisors. The not-uncommon situation is a change in research interest on the part of a student, and procedures for that situation are described, first.

Change in student's research interest

In this situation, it is the student's responsibility to ensure that a transition is possible.

- The student needs to discuss the desire to change topics with the current research advisor. In some cases, the current advisor can adjust the student's activities to satisfy the change in interest.
- In other cases, the student needs to discuss the change with the prospective new advisor and obtain agreement that the student can be accommodated in the group and that funds are available to support the student on a project.
- The student needs to coordinate completion of final project tasks with the current advisor. If the student is supported by a research assistantship, financial support for the student will be changed once these tasks are completed.
- The student will prepare a letter for the Chairs of the NEEP Department and of the Graduate Studies Committee to inform them of the change and the plans for the transition. The student will have the letter signed by both the current and new advisors.
- If the student has an approved doctoral plan, a new doctoral plan needs to be prepared and approved by the Department at the earliest practical time.
- In the unlikely situation that the student has already passed the preliminary examination, the student would work with the new advisor to revise the preliminary document and give a proposal presentation to the new dissertation committee. The student will also consult with the NEEP Graduate Coordinator as to whether a new Graduate School warrant is required for the change in topic.

Change prompted by research-group climate

A rare change of advisor that is prompted by the research-group climate implies the possibility that the current research advisor is not meeting expectations with respect to the mentor/mentee relationship. As described in the expectations policy, the student should first seek advice from members of the Graduate Studies Committee and/or the Department Chair or the College Associate Dean for Graduate Affairs. The student should follow the Department and College grievance procedures, especially if third-party intervention is needed. With reasonable evidence or demonstration of a research-group climate that is not beneficial to the student, the following will apply:

- The Nuclear Engineering and Engineering Physics Graduate Studies Committee and the Department Chair will share information on the situation and decide what steps are appropriate.
    - They will determine whether it is possible for the student to continue working on the same project under the supervision of another faculty member.
    - Where that is not possible, they will help the student identify a new group and topic.
    - The Chairs of the Nuclear Engineering & Engineering Physics Department and the Graduate Studies Committee will meet with the current advisor to plan steps for the current advisor to improve his or her research-group climate.
- When appropriate, the NEEP Department will arrange assistantship support so that the student may leave the group without delay.
    - The source of the funding can be from the current advisor's grant that is funding the student's project or from the current advisor's flexible funds (startup, professorship, etc.).

- In cases where the current advisor is an affiliate of the NEEP Department, the Department will seek funding from the advisor's home department, subject to College policies.
- If the student completes the original project under supervision of a different faculty member, the garnered support will continue until the student graduates, a new source of support is obtained, or the student exceeds the period of guaranteed support.
- If the student transitions to a different topic, the garnered support will be limited to no more than one year in duration.
- The use of office space and equipment related to research will transition fully to that provided by the new advisor without delay.

Grievance Procedure

Students who feel that they have been treated unfairly have the right to a prompt hearing of their grievance. Such complaints may involve course grades, classroom treatment, advising, various forms of harassment, or other issues. Any student or potential student may use these procedures.

Procedures for proper accounting of student grievances:

- The student should speak first with the person toward whom the grievance is directed. In most cases, grievances can be resolved at this level.
- Should a satisfactory resolution not be achieved, the student should contact the program's Grievance Advisor to discuss the grievance. The NEEP Graduate Coordinator can provide students with the name of this faculty member, who facilitates problem resolution through informal channels. The Grievance Advisor is responsible for facilitating any complaints or issues of students. The Grievance Advisor first attempts to help students informally address the grievance prior to any formal complaint. Students are also encouraged to talk with their faculty advisors regarding concerns or difficulties if necessary. University resources for sexual harassment concerns can be found on the UW Office of Equity and Diversity website.
- If the issue is not resolved to the student's satisfaction, the student can submit the grievance to the Grievance Advisor in writing, within 60 calendar days of the alleged unfair treatment.
- On receipt of a written complaint, a faculty committee will be convened by the Grievance Advisor to manage the grievance. The program faculty committee will obtain a written response from the person toward whom the complaint is directed. The response will be shared with the person filing the grievance.
- The faculty committee will determine a decision regarding the grievance. The Grievance Advisor will report on the action taken by the committee in writing to both the student and the party toward whom the complaint was directed within 15 working days from the date the complaint was received.
- At this point, if either party (the student or the person toward whom the grievance is directed) is unsatisfied with the decision of the faculty committee, the party may file a written appeal. Either party has 10 working days to file a written appeal to the College of Engineering.

A student may be reluctant to approach the person against whom the grievance is directed, or to that person's supervisor, or to anyone else in the administrative hierarchy. In that case, the student

should seek a person who can guarantee confidentiality to the extent allowed by the law and University policy and can act as an Ombuds to provide non-judgmental advice as to appropriate next steps. Note that if criminal activity is involved, confidentiality cannot be guaranteed. The College Assistant Dean of Graduate Affairs or any faculty member of the College of Engineering trusted by the student can either serve the Ombuds role or direct the student to someone who can assure confidentiality.

The Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu) provides overall leadership for graduate education in the College of Engineering (CoE) and is a point of contact for graduate students who have concerns about education, mentoring, research, or other difficulties.

The Graduate School has procedures for students wishing to appeal a grievance decision made at the college level. These policies are described in the Academic Policies and Procedures at https://grad.wisc.edu/academic-policies/.

Hostile and Intimidating Behavior

Hostile and intimidating behavior, sometimes known by the shorthand term "bullying," is defined in university policy as "unwelcome behavior pervasive or severe enough that a reasonable person would find it hostile and/or intimidating and that does not further the University's academic or operational interests."

Hostile and intimidating behavior (HIB) can occur in the university setting. Even individual instances of such behavior can have a significant effect on the person it's aimed at, and can take a physical and emotional toll, reduce the effectiveness of a person's work or learning. It is a significant reason for unhealthy workplace climate and culture, and it should be addressed immediately. Hostile and intimidating behavior is prohibited by university policy.

What is Hostile and Intimidating Behavior?

Hostile and intimidating behavior is defined as unwelcome behavior pervasive or severe to the extent that it makes the conditions for work inhospitable and impairs another person's ability to carry out his/her responsibilities to the university, and that does not further the University's academic or operational interests. A person or a group can perpetrate this behavior. The person need not be more senior than or a supervisor to the target. Unacceptable behavior may include, but is not limited to:

1. Abusive expression (including spoken, written, recorded, visual, digital, or nonverbal, etc.) directed at another person in the workplace, such as derogatory remarks or epithets that are outside the range of commonly accepted expressions of disagreement, disapproval, or critique in an academic culture and professional setting that respects free expression;
2. Unwarranted physical contact or intimidating gestures; Conspicuous exclusion or isolation having the effect of harming another person's reputation in the workplace and hindering another person's work;
3. Sabotage of another person's work or impeding another person's capacity for academic expression, be it oral, written, or other;

4. Abuse of authority, such as using threats or retaliation in the exercise of authority, supervision, or guidance, or impeding another person from exercising shared governance rights, etc.

Repeated acts or a pattern of hostile and/or intimidating behaviors are of particular concern. A single act typically will not be sufficient to warrant discipline or dismissal, but an especially severe or egregious act may warrant either.

What to do if you feel you've been the target of hostile and intimidating behavior:

Undesired consequences of hostile and intimidating behavior can be avoided or minimized when the problem is addressed early on, but victims are often hesitant to pursue a formal process before the impact is severe. Educational opportunities and campus resources have been implemented with the intent of aiding all employees and students in defusing situations before they become severe. These resources, including trained personnel who can advise and mediate, comprise the "informal process." It is possible that situations will continue to arise in which informal interventions are not effective, and the "formal process" has been designed to address those situations.

You are encouraged to seek out advice and consultation after the first instance of hostile and intimidating behavior: consultation is not escalation. Discussing what's happened in a timely way can often prevent continued bullying. Here are some ways to do this:

1. Seek advice from a trusted colleague;
2. You may choose to seek informal resolution by approaching the individual yourself or with an intermediary (also see https://hr.wisc.edu/hib/addressing-hib/);
3. Consult your advisor, human resources representative, department chair, director, dean, or any campus resource to discuss options for resolution;
4. Keep notes of what happened, when, where, and who was present. Retain copies of any correspondence.

Graduate Students sometimes experience hostile and intimidating behavior from faculty members. If you are a student who is experiencing such behavior, you are entitled to support as a university employee through the Ombuds office, the Dean of Students office, and (if a grad student) the Graduate School. Graduate student workers should also consult with Graduate Coordinators, TAA Stewards, and/or the Graduate School.

NEEP graduate students with concerns may contact the Chair of the Graduate Studies Committee, the NEEP Grievance Advisor, or the College of Engineering Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu). Additional campus information on hostile and intimidating behavior is available at https://hr.wisc.edu/hib/.

Academic Integrity

By enrolling in this program, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action.

This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to https://conduct.students.wisc.edu/academic-misconduct/.

Also see the Graduate School's policies on academic misconduct, https://grad.wisc.edu/documents/misconduct-academic/.

Parental Leave Policy for Graduate Student Assistants

The College of Engineering (CoE) and the Department are fully committed to providing a climate of support for graduate students who choose to have children during their graduate studies. The goal of this parental leave policy is to reduce academic and financial hardships for a) graduate students during the late stages of their pregnancy, childbirth, and postpartum periods, and b) any graduate student who is a new parent.

All CoE graduate students with current research, teaching, or project assistantships in CoE are eligible to request a parental leave under this policy. This applies to all graduate students of all genders, all sexual orientations, and all family structures. Upon request, graduate students who are pregnant will be provided with 12 weeks of paid accommodation time for childbirth. Other new parents (non-gestational) will, upon request, be provided with 6 weeks of paid accommodation time. There will be no research or teaching expectations of the student during the leave.

Students should ideally notify their department (through the Department Administrator or Department Chair) six months prior to the expected birth or adoption to request the leave. Students should alert their research advisor or TA coordinator at that time as well to ensure that the ongoing research and teaching environment is safe for the student who is pregnant. It is recognized that each case will be unique in terms of the timing of the pregnancy or adoption relative to the academic calendar, and that creative and supportive solutions will be required on the part of advisors, chairs, TA coordinators, etc.

The leave will ordinarily begin at the time of birth or adoption, but other proposals will be considered. Departments – both advisors and chairs – are expected to provide flexibility in working out the details of the leave and to adjust the timeline of the leave as needed to accommodate any unexpected medical issues that arise during pregnancy (*e.g.,* doctor-ordered bed rest).

Accommodations for Students with Disabilities

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty will work either directly with the student or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional

accommodations as part of a student's educational record, is confidential and protected under FERPA." For more information, visit https://mcburney.wisc.edu/.

Training Requirements

Safety

Whether working in a laboratory or other settings, safety is of paramount importance. To inform students of proper procedures and reporting requirements, the department has a one-time safety training requirement for all graduate students, regardless of whether a student works in a laboratory. The safety training materials are available online at https://canvas.wisc.edu/courses/172200.

Research Ethics

The research enterprise and the development of new technology depend on scientists and engineers working with the highest levels of integrity. In addition, there are areas of research that must consider whether certain technological developments are in the public's interest. To raise awareness of these and related issues, the College of Engineering has established an annual ethics training requirement for graduate students. Seminars and other sessions that satisfy this requirement are announced to students. Taking part in at least one session per academic year is required of all Nuclear Engineering and Engineering Physics graduate students, regardless of whether a student conducts research.

Exit Interviews

The NEEP Department will conduct interviews of all graduate students who complete their degrees and of those who leave without completing a degree. Two formats will be available: students will be encouraged to meet with a member of the Graduate Studies Committee, but they will be allowed to complete an online survey when an in-person meeting is not practicable. Specific survey questions may be adjusted over time, but they will need to cover at least the following topics:

1. The student's degree of satisfaction with mentor/mentee relationships,
2. The quality of the research experience,
3. Whether the climate of the research group was constructive,
4. Coursework requirements and options that contributed greatest and least to the student's professional knowledge,
5. Whether the climate of the NEEP Department was supportive of the student's professional development, and
6. The extent to which the NEEP graduate experience prepared the individual for forthcoming career steps.

APPENDIX A: NEEP Degree Timelines

Nuclear Engineering and Engineering Physics **Master's** Timeline

Steps towards your degree

- Coursework MS Option:
  - Begin coursework
  - Complete coursework
  - Have advisor check progress toward Department degree requirements
  - Request MS warrant several weeks before oral exam and/or graduation
  - Take oral exam →NEEP Only
  - MS Degree Awarded

- Thesis MS Option
  - Begin coursework
  - Identify research advisor and topic
    - Sign up for Research NE 790
  - Complete research and write thesis
  - Have advisor check progress toward Department degree requirements
  - Request MS warrant several weeks before oral exam
  - Thesis Oral Defense
  - MS Degree awarded

(Appendix A cont'd)

Nuclear Engineering and Engineering Physics **PhD** Program Timeline

Steps towards your degree

- Identify research advisor before arriving on campus or during your first semester
- Begin coursework and start research (NE 890)
- Take Qualifying Exam (third or fourth semester)
- Finish MS coursework
  - Submit MS add program request (if MS degree desired)
  - Request MS warrant if an MS is desired
- Submit Doctoral Plan (semester after passing Qualifying Exam)
- Minor Requirements Completed (another 1-3 semesters)
- Write Prelim
- Request Prelim Warrant several weeks before Prelim Exam
- Take Prelim Exam (submit signed warrant to Graduate School **after** coursework is completed)
- Dissertator (NE 990)
- Finish Thesis
- Have advisor check progress toward Department degree requirements
- Request Final Warrant several weeks before Prelim Exam
- Defend Thesis
- Warrant signed
- Thesis must be completed within 5 years of Prelim Exam
- Make Corrections
- Final Appointment at Graduate School (turn in final warrant, etc.)
- Deposit bound thesis copy to Department and Advisor
- PhD Degree awarded

APPENDIX B: Rubric for the Oral Qualifying Exam

1. Fundamental knowledge in each subject: Initiates new problems with a clear and relevant approach

Exceeds expectations	Demonstrates a thorough and valid understanding of the relevant body of knowledge and area of inquiry
Meets expectations	Demonstrates some form of valid understanding of the relevant body of knowledge and area of inquiry
Does not meet expectations	Misinterprets or fails to identify the relevant body of knowledge and area of inquiry

2. Problem-solving skills: Completes problems without errors

Exceeds expectations	Demonstrates a thorough and valid understanding of the assumptions, constraints, simplifications, and methods of solution.
Meets expectations	Demonstrates some form of valid understanding of the assumptions, constraints, simplifications, and methods of solution.
Does not meet expectations	Misinterprets or fails to identify the relevant body of assumptions, constraints, simplifications, and methods of solution.

3. Reliance on faculty assistance: Completes problems without faculty assistance*

Exceeds expectations	Completes problems without any faculty assistance
Meets expectations	Completes problems with some faculty assistance in one or two specific parts of the problem
Does not meet expectations	Requires faculty assistance in several parts of the problem solution

* ”Assistance” here refers to assistance in solving the problems. Students may ask for clarifications as needed.