



The Foundation for The Gator Nation

Nuclear Engineering Sciences (NES) Graduate Program Guidelines

Graduate Handbook

2020-2021

Effective from 8/15/2020

This Guide contains information that supplements the University's Graduate Catalog which is the primary document governing all academic programs. Although every effort has been made to maintain accuracy, the Nuclear Engineering Program and the Materials Science and Engineering Department reserves the right to correct errors when found, without further notice to students. The presence of errors will not affect the application of the rules and requirements applicable to all students.

Table of Contents

1. Introduction	3
1.1. Program Mission	3
1.2. Nuclear Engineering Program Graduate Program Objectives	3
2. Graduate Faculty	4
2.1. Department Administration	4
2.2. Key Staff	4
2.3. NEP Graduate Faculty	4
3. Graduate Programs	6
3.1. First Semester Courses	6
3.2. M.S. Degree Program and Requirements	6
3.2.1. Non-Thesis Option	6
3.2.2. Thesis Option	8
3.3. Ph.D. Degree Program and Requirements	9
3.3.1. Course Requirements	9
3.3.2. Research Advisor and Supervisory Committee	10
3.3.3. Qualifying Exam	10
3.3.4. Professional Development Requirement	11
3.4. Thesis Defense	13
4. Courses and Registration	14
4.1. Registration Requirements	14
4.2. Courses and Credits	15
4.3. Transfer Credit	16
4.4. Add/Drop	16
4.5. Retaking Courses	16
5. Grades	16
6. Research	17
6.1. Safety	17
6.2. Responsible Conduct in Research (RCR)	17
7. General Information	18
7.1. Graduate Coordinator	18
7.2. Academic Services Office	18
7.3. NE Graduate Program Committees	18
7.4. Department Student Council	18
7.5. Graduate Guidelines and Catalog Year	18
7.6. Graduate Assistantships, Fellowships, and Awards	19
7.7. Professional Work	19
8. Internships	19
9. Academic Honesty	20
10. Satisfactory Progress and Scholarship	20
11. Correspondence and Forms	21

12.	Preparation for Final Semester	21
13.	Student Responsibility	22

1. Introduction

The Nuclear Engineering Program is housed within the Department of Materials Science & Engineering (MSE). The Nuclear Engineering Program offers graduate students the opportunity to conduct state-of-the-art research under the supervision of faculty while pursuing Master of Science or Doctor of Philosophy degrees in the Nuclear Engineering Sciences (NES). The UF Graduate Catalog is the University of Florida's official record of graduate policies, critical dates, deadlines, course descriptions and faculty members for master's degree and doctoral degree students. It is the student's responsibility to know and understand these rules. The current graduate school catalog may be found at <http://gradcatalog.ufl.edu/> and the Graduate Student Handbook at <http://graduateschool.ufl.edu/media/graduate-school/pdf-files/handbook.pdf>.

The NES Graduate Handbook is provided to all NES graduate students to serve as a companion resource to the University of Florida Graduate Catalog. It is the responsibility of the student to be familiar with both publications and to adhere to the stated rules.

It should be noted that for all graduate students, the contract for UF Graduate Assistants United can be found at this link <http://ufgau.org/>.

1.1. Program Mission

The Nuclear Engineering Program at the University of Florida is dedicated to developing innovative nuclear technologies, educating future generations of nuclear engineers, and cultivating leaders, by nurturing the integration of nuclear science and engineering with societal needs in a collaborative and dynamic educational and research environment.

1.2. Nuclear Engineering Program Graduate Program Objectives

Identify unknown aspects of nuclear and/or radiological systems and formulate an approach to elucidating those aspects using engineering and/or scientific principles at a level appropriate to a doctoral research.

Demonstrate proficiency on appropriate experimental or computational techniques used for nuclear engineering research, and use these techniques to investigate various relationships (atomic, nuclear, mechanical, materials performance, etc.) in nuclear systems at a level appropriate to the degree being sought.

Obtain information from primary literature and technical reports and integrate that information to reach conclusions regarding the current state-of-the-art and areas in which further research is needed.

Write and/or orally present the results of a research project or literature review in a manner that clearly communicates one or more of the following: current state-of-the-art, areas in which additional research is needed, research objectives, procedures, results, and conclusions.

Follow requirements for writing reports and research papers and do so based on ethical standards regarding appropriate citation and plagiarism.

Work cooperatively with others, interact with supervisors, follow guidelines for appropriate management of data, and follow safety requirements for working in a research laboratory.

2. Graduate Faculty

2.1. Department Administration

Prof. Michele V. Manuel
MSE Department Chair
100B Rhines Hall
mmanuel@mse.ufl.edu
(352) 846-3300

Prof. John J. Mecholsky, Jr.
Associate Chair for MSE
100D Rhines Hall
jmech@mse.ufl.edu
(352) 846-3300

Assoc. Prof. Andreas Enqvist
NE Program Director
100A Rhines Hall
enqvist@ufl.edu
(352) 846-3300

Assoc. Prof. Justin Watson
NE Graduate Coordinator
178 Rhines Hall
ne-gradcoordinator@mse.ufl.edu
(352) 273-0241

2.2. Key Staff

Sonya Robinson
Human Resources (HR)
112 Rhines Hall
mse-hr@eng.ufl.edu
(352) 846-3769

Tanner Nestle/Tahara Franklin
Academic Advisor
Academic Services Office (ASO)
advising@mse.ufl.edu
(352) 846-3312

2.3. NEP Graduate Faculty

The current faculty of the MSE department and their contact information are provided on the MSE website: <http://www.mse.ufl.edu/people/mse-faculty/>.

The following faculty are considered core NE faculty and are eligible to advise graduate students.

- Assistant Professor Assel Aitkaliyeva
- Professor James Baciak
- Associate Professor Andreas Enqvist
- Lecturer Ira Harkness (starts Fall 2020)
- Assistant Professor Kyle Hartig
- Associate Professor Chris McDevitt
- Associate Engineer DuWayne Schubring
- Associate Professor Michael Tonks
- Professor Natalie Wall
- Professor of Practice Donald Wall
- Associate Professor Justin Watson

- Associate Professor Yong Yang

Additionally, there is a large number of other faculty that are eligible to advise graduate students (such as all other MSE faculty). The following lists some of those additional faculty that are also significantly involved in the NE program:

- Professor Juan Nino
- Professor Simon Phillpot
- Professor Emeritus James Tulenko

3. Graduate Programs

The University of Florida's Nuclear Engineering Sciences (NES) graduate program offers students a world-class education in a world-class research environment. We offer two graduate degrees: Master of Science and Doctor of Philosophy.

3.1. First Semester Courses

During their first semester in the program, NES graduate students typically take 2 regular courses, the nuclear engineering seminar, and 1-2 research credits. All students should enroll in:

- ENU 6051 (Radiation Interaction Basics and Applications I) – 3 credits
- ENU 6935 (Nuclear and Radiological Engineering Seminar) – 1 credit

Students should then, in consultation with their advisor, select one additional course from the following list:

- ENU 6106 (Nuclear Reactor Analysis 1) – 3 credits
- ENU 6135 (Nuclear Thermal Hydraulics) – 4 credits
- ENU 6805 (Introduction to Nuclear Reactor Materials) – 3 credits

Typically, students holding previous degree(s) in Nuclear Engineering or Physics should take 6106, with those holding previous degree(s) in Mechanical Engineering taking 6135 and those holding previous degree(s) in Materials Science and Engineering taking 6805. Students coming from other backgrounds should discuss the situation with their advisor, the NE graduate coordinator, and/or the NE director.

Finally, students should complete 1-2 research credits (for a total of 9). In most circumstances these credits should be ENU 6910 (Supervised Research); students should confirm with their advisor.

3.2. M.S. Degree Program and Requirements

3.2.1. Non-Thesis Option

The requirements for completing a Master of Science (Non-Thesis) in Nuclear Engineering include a minimum number of credit hours, nuclear core courses, and a final project report.

30 credit hours of course work are required to earn a M.S. Students with graduate work in nuclear engineering or a related field from a different institution may transfer up 9 hours from that institution at the discretion of the Graduate School. Credit for nuclear engineering courses may be given at the discretion of the Graduate Program Coordinator. Students with graduate work in a different graduate program at the University of Florida may transfer up to 9 hours from that program at the discretion of the Graduate Program Coordinator.

- A minimum of 24 of the 30 credit hours must be graded (A-E) lecture or lab courses with numbers with any engineering, science, math, or statistics prefix. ENU 6905, 6910, 6936, and 6971 may not be used to meet this
- Students must complete the following core courses:

- ENU 6051 (Radiation Interaction Basics and Applications I) – 3 credits
- ENU 5615C (Nuclear Radiation Detection and Instrumentation) – 4 credits
- A minimum of 18 of these 24 graded credit hours must be numbered 5000 or above.
 - The remainder of these 24 credits (i.e.; up to 6 may be non-ENU courses numbered 3000 or above. (No ENU courses with course numbers of 4999 or below may be used).
 - 12 of the 30 credit hours must be graded (A-E) lecture or lab courses with numbers 5000+ with the nuclear engineering (ENU) prefix. ENU 6905, 6910, 6936, and 6971 may not be used to meet this requirement.
- 6 of the 30 credit hours may be research or individual work courses, including ENU 6905 (Individual Work – letter graded), ENU 6910 (Supervised Research – S/U graded), and ENU 6936 (Special Projects in Nuclear and Radiological Engineering Sciences – letter graded). ENU 6971 (Research for Master's Thesis – S/U graded) may not be used for the M.S. non-thesis degree, nor may ENU 7979 (Advanced Research) and ENU 7980 (Doctoral Research).

Students should be advised that transitioning between the M.S. non-thesis and thesis programs may not be possible in the middle of their graduate studies. Even when allowed, not all credits may transfer to the new degree.

Students must select an advisor who has graduate faculty status in nuclear engineering. The supervisory committee will consist of this advisor only and must be formed by submitting the Appointment of Supervisory Committee Form. This must be done by the end of the second semester or once the student has completed 12 credit hours of work (whichever occurs first).

In conjunction with their course work, M.S. non-thesis students are required to produce an M.S. project report.

For students who identified a faculty member to serve as their mentor, this work will be a report supervised by that faculty member. Students will submit a written report of their work to their mentor, who will determine if the report is satisfactory. Students with a mentor should take ENU 6936 with that faculty member.

For students without a mentor, it is the *responsibility of the student* to propose an M.S. project for the approval of the Graduate Program Coordinator and to abide by the deadline set by the Graduate Program Coordinator for submission of the project (this deadline will be earlier than those set by the graduate school to allow time for technical review of the work). In this case the satisfactory/unsatisfactory determination will be made by the Graduate Program Coordinator. This project may be related to the student's coursework but should not be a document prepared as part of the work for any particular course nor a trivial extension thereof.

The M.S. project should represent a substantial effort over and above completion of coursework. As a guideline, students should expect to spend not fewer than 300 hours (i.e.; a half-time effort over a semester or a quarter-time effort over an academic year) on their M.S. project and to produce a report of 15 pages or more. Exceptions to these guidelines may be approved at the discretion of the student's advisor (whether this is their identified mentor or the graduate program coordinator).

Students are urged to find an advisor interested in mentoring them towards a strong M.S. project. Students who are unable to find a willing mentor will default to having the graduate program coordinator, currently Dr. Watson, as advisor. In this case, the graduate coordinator will evaluate the M.S. project selected and produced by the student.

3.2.2. Thesis Option

The requirements for completing a Master of Science (Thesis) in Nuclear Engineering include a minimum number of credit hours, nuclear core courses, and a final project report.

30 credit hours of course work are required to earn a M.S. Students with graduate work in nuclear engineering or a related field from a different institution may transfer up to 9 hours from that institution at the discretion of the Graduate School. Credit for nuclear engineering courses may be given at the discretion of the Graduate Program Coordinator. Students with graduate work in a different graduate program at the University of Florida may transfer up to 9 hours from that program at the discretion of the Graduate Program Coordinator.

- A minimum of 24 of the 30 credit hours must be graded (A-E) lecture or lab courses with numbers with any engineering, science, math, or statistics prefix. ENU 6905, 6910, 6936, and 6971 may not be used to meet this requirement.
- Students must complete the following core courses:
 - ENU 6051 (Radiation Interaction Basics and Applications I) – 3 credits
 - ENU 5615C (Nuclear Radiation Detection and Instrumentation) – 4 credits
- A minimum of 18 of these 24 graded credit hours must be numbered 5000 or above.
 - The remainder of these 24 credits (i.e.; up to 6 may be non-ENU courses numbered 3000 or above. (No ENU courses with course numbers of 4999 or below may be used).
 - 12 of the 30 credit hours must be graded (A-E) lecture or lab courses with numbers 5000+ with the nuclear engineering (ENU) prefix. ENU 6905, 6910, 6936, and 6971 may not be used to meet this requirement.
- 6 of the 30 credit hours may be research or individual work courses, including ENU 6905 (Individual Work – letter graded), ENU 6910 (Supervised Research – S/U graded), and ENU 6971 (Research for Master's Thesis – S/U graded). ENU 6936 (Special Projects in Nuclear and Radiological Engineering Sciences – letter graded) may not be used for the M.S. thesis degree, nor may ENU 7979 (Advanced Research) and ENU 7980 (Doctoral Research).

Students should be advised that transitioning between the M.S. non-thesis and thesis programs may not be possible in the middle of their graduate studies. Even when allowed, not all credits may transfer to the new degree.

Students must select a committee with a chair, with graduate faculty status in nuclear; at least two other members, one with graduate faculty status in nuclear; and one external member, with graduate faculty status but not in nuclear. The supervisory committee must be formed by submitting the Appointment of Supervisory Committee Form.

Once the student has completed his or her research, they must present this work to their committee. This is the final exam. During the final exam, the student will present their thesis research; any further requirements for this presentation will be set by their advisor. The student's advisor must approve the student attempting the exam. The student's supervisory committee will administer the final exam. All committee members must attend. In conjunction with the final exam, the student should prepare a written document, i.e. their thesis. This document should be prepared and formatted in accordance with graduate school requirements. and must be approved by their advisor and committee.

A student that does not pass on their first attempt will be allowed a second attempt at the final exam. The retake must be taken during the semester following the first attempt. A student who does not pass after the second attempt will not be allowed to continue in the M.S. program. In very limited and unusual circumstances students may request to delay the first or second attempt or may be allowed to attempt the final exam a third time. Requests in extenuating circumstances must be made through the Graduate Program Coordinator. Students should make every effort to follow the required schedule as exceptions to this rule are extremely rare.

3.3. Ph.D. Degree Program and Requirements

3.3.1. Course Requirements

The MSE Department offers a Ph.D. degree, which requires 90 credits of course work.

- 21 of the 90 credit hours must be graded (A-E) lecture or lab courses with numbers 5000+ with any engineering, science, math, or statistics prefix.
- 15 of the 21 credit hours must be graded (A-E) lecture or lab courses with numbers 5000+ with the nuclear engineering (ENU) prefix.
- The remainder of the credits may be graded courses, courses used to fulfill the Professional Development Requirement research credits, including ENU 7979 (Advanced Research) and ENU 7980 (Doctoral Research). ENU 7979 is to be taken prior to achieving candidacy and ENU 7980 after. Passing the oral qualifying examination (dissertation proposal) marks the achievement of candidacy.

Students must complete the following list of core courses (see Section 3.3.3 for grade requirements).

- ENU 5615C (Nuclear Radiation Detection and Instrumentation) – 4 credits
- ENU 6051 (Radiation Interaction Basics and Applications I) – 3 credits
- ENU 6106 (Nuclear Reactor Analysis 1) – 3 credits
- ENU 6135 (Nuclear Thermal Hydraulics) – 4 credits
- ENU 6805 (Introduction to Nuclear Reactor Materials) – 3 credits

Students who have completed ENU 4134 Reactor Thermal Hydraulics shall substitute ENU 6136 Advanced Nuclear Thermal Hydraulics or ENU 6937 (ENU 6143) Advanced Nuclear Reactor Concepts as a core course, including for the purpose of the Written Qualifying Requirement. Students who completed the undergraduate version of ENU 6937 (ENU 6143) may petition to

count EML 6155 Convection Heat Transfer instead, to avoid a one-year delay in completion of these requirements.

Students must complete the following course in a semester prior to that in which they defend their dissertation:

- ENU 6935 (Nuclear and Radiological Engineering Seminar) – 1 credit

Finally, students must satisfy the Professional Development requirement (section 3.3.4).

3.3.2. Research Advisor and Supervisory Committee

Each Ph.D. student has a supervisory committee whose members guide and supervise the student's research program. This committee is solely responsible for setting specific degree requirements, conducting and reporting on oral examinations, and approving the student's doctoral dissertation. The student should meet at least annually with their supervisory committee to discuss their progress towards the Ph.D. degree.

The student's supervisory committee is usually chaired by his/her research advisor, who must be a Graduate Faculty in Nuclear Engineering Sciences. Students must affiliate with a research advisor within the first semester. The other three members of the supervisory committee are selected by the student and the advisor and typically complement the student's research interests. One committee member must be from outside the Graduate Faculty of Nuclear Engineering Sciences.

The qualifying and comprehensive oral examinations and the oral defense of a thesis, project, or dissertation may be conducted using video and/or other appropriate forms of telecommunication. The candidate and the supervisory committee chair or cochair must be physically present together at the same location. With approval of the entire committee, other members may attend the defense remotely, using modern communication technology.

Students need to form their Supervisory Committee no later than the end of their second semester of study or after 12 credit hours in order to be able to register for a third semester. The Form can be found at <http://www.mse.ufl.edu/academics/mse/general-forms/>. Changes in the membership of the supervisory committee are made by petition to Academic Advising.

3.3.3. Qualifying Exam

The qualifying exam consists of both a written and an oral part.

Written: The written qualifying requirement is comprised of successful completion of course work; students must earn a minimum of a B in 4 of the 5 Nuclear Engineering Core Graduate courses (1 attempt per course) to fulfill this requirement. Students must achieve the required marks by the end of their second year in the program. Additionally, students must have completed the written qualifying requirement before the oral qualifying exam is held. In their first semester of UF enrollment, students who transfer into the graduate program should talk to their advisor and graduate program coordinator regarding their academic record for completion of this requirement.

Oral: students must make the first attempt at the oral component of the exam no later than the last semester of your second year (semesters include fall, spring, and summer) , i.e. students admitted during Fall 2020 must make the first attempt no later than Summer 2022. During the oral qualifying exam, the student will present the proposed dissertation research including (1) a review of the

relevant research literature and (2) progress made and future plans for completing the proposed dissertation research. In conjunction with the oral exam, the student should prepare a document serving as the dissertation research proposal and distribute to the supervisory committee at five days prior to the oral exam.

The student's advisor must approve the student attempting the exam. The student's supervisory committee will administer the oral exam.

The student's advisor must approve the proposal format. Additionally, students are required to submit the Admission to Candidacy Form a minimum of five business days before the exam. The supervisory committee will evaluate the student's proficiency in the proposed research area and the potential to complete the proposed research project successfully. The committee may recommend changes to the project scope, require additional course work, or make recommendations for techniques or collaborations that may expedite the research effort. The supervisory committee will deliver a Pass or Fail evaluation at the end of the oral exam.

A student that does not pass on their first attempt will be allowed a second attempt at the oral qualifying exam. The retake must be taken during the semester following the first attempt. A student who does not pass after the second attempt will not be allowed to continue in the Ph.D. program. In very limited and unusual circumstances students may request to delay the first or second attempt or may be allowed to attempt the oral qualifying exam a third time. Requests in extenuating circumstances must be made through the Graduate Program Coordinator to the Graduate Petition committee. Students should make every effort to follow the required schedule as exceptions to this rule are extremely rare.

The Qualifying Exam is graded pass/fail separately for the writing and oral components. An overall passing grade requires passing both the writing and oral component. All work for the doctorate must be completed within 5 calendar years after the qualifying examination, or this examination must be repeated.

3.3.4. Professional Development Requirement

In addition to completion of their dissertation research, core courses, and credit hour requirements, students who entered the Ph.D. program in Fall 2017 or later are required to complete Professional Development activities equivalent to 6 credits (approximately 300 hours).

For all students, 1 of the 6 credits must be Presentations and Pedagogy for Nuclear Engineering Sciences (official course number to be assigned, referred to herein as ENU 694y). This course is offered in Spring and must be taken in the student's first or second (usually first) spring in the Ph.D. program.

Supervised Teaching Options

Most students will complete the remaining 5 credits through assisting faculty with the teaching of nuclear engineering courses. The following options may be available to reach the minimum of 5 credits.

- 2 credits of ENU 6940, Supervised Teaching, may be earned by students acting as a Teaching Assistant for a lecture-based ENU course. Duties expected of lecture course TAs

will include holding office hours and/or teaching selected lectures, at the discretion of the faculty member in charge of the course, as well as grading of coursework.

- 3 credits of ENU 6940, Supervised Teaching, may be earned by students acting as a Teaching Assistant for a laboratory ENU course. Duties expected of lab course TAs will primarily involve supervision of laboratory sections. Assigned duties may also include holding office hours and/or teaching selected lectures, at the discretion of the faculty member in charge of the course, as well as grading of coursework.

Only one of these options may be available in any given semester. In particular, assignment to laboratory vs. lecture-based courses will be based on the qualifications of the student (including undergraduate degree, UF coursework, and research performance/specialization), program needs, as well as the preference of the student. Some students may be assigned as a lab TA twice or as a lecture TA thrice, for a total of 6 credits. In this case, all 7 credits (6 from ENU 6940 and 1 from ENU 694y) will count towards their degree. (Students who are assigned as a lecture TA twice are encouraged to consider Student-Arranged Activities, as described below, in lieu of a third semester of lecture TA duty.)

Some Ph.D. students are interested in pursuing careers in engineering education, through faculty positions or other means. Students interested in this path may complete, in addition to one semester of either option above:

- 4 credits of ENU 694x, Advanced Pedagogy in Nuclear Engineering Sciences, which may be earned by students acting as a co-instructor for a lecture-based ENU course. Duties expected of a co-instructor are to hold the majority of lectures, to hold regular office hours, and to develop the majority of coursework (exams, projects, and homework) in collaboration with a faculty member who has previously taught the course.

Before selecting this option, students should consider their workload for the targeted semester, gain the approval of their advisor, and evaluate their own maturity relative to that expected of an instructor at the university level. Interested students are required to apply for this assignment; applications will be reviewed in light of the student's qualifications and the needs of the program. Students must have completed their written qualifying requirement prior to the semester in which they take ENU 694x. With rare exceptions, students must have completed their oral qualifying requirement prior to the semester in which they take ENU 694x and may not be enrolled in any lecture-based or laboratory courses in the semester in which they take ENU 694x.

For students who complete ENU 694x, all 7-8 credits (2-3 from ENU 6940, 4 from ENU 694x, and 1 from ENU 694y) will count towards their degree.

Student-Arranged Activities

Students who are not interested in teaching or who are legally prevented from teaching due to their source of funding (e.g.; some fellowships) may request a waiver of up to 5 credits of the professional development coursework requirement (ENU 6940 and ENU 694x) on the basis of completing other professional development activities. Waivers are not automatically granted on the basis of funding status alone. The onus to arrange these activities is on the student, not the program or the student's advisor.

Examples of such activities include:

- Completion of internships at national laboratories or in industry. Typically, a full-time summer internship will be taken as the equivalent of up to 2 credits, with a full-time, fall or spring semester internship as the equivalent of up to 3 credits. In general, completion of 2 summer internships will not, alone, be sufficient to meet the 5 required credits. However, students who have fellowships that require 2 such internships/practica and which forbid the student from teaching should petition to have the final credit waived.
- Regional, national, or international leadership positions in professional societies or conferences, such as ANS Student Director. As a guideline, 1 credit of waiver will be offered per 50 hours of student effort. Waivers are not available for leadership positions within UF.
- Completion of UF coursework relevant to professional development. Such courses could include advanced technical writing or oral presentations courses (particularly for students whose first language is not English), foreign language study, and/or completion of the FIDEF (Florida Institute for Development of Engineering Faculty) courses. Students should be aware that the number of credits of the professional development requirement waived will be at the discretion of the program and, particularly for foreign language study, may be fewer than the number of course credits.

Waivers for other professional development activities, including those completed prior to enrollment in the Ph.D. program, may be requested, such as time spent in industry, national laboratories or other research, military service, or teaching. Approval for all professional development activities other than supervised teaching is at the discretion of the NE Program Director, in consultation with the NE Graduate Coordinator, the student's advisor, and the NE faculty. Approval will be based primarily on the professional development needs of the student but may also consider the NE program's need for Teaching Assistants.

3.4. Thesis Defense

The final Thesis Defense examination for the Ph.D. degree is in the form of a public defense with open questioning followed by a closed session with private questioning by members of the supervisory committee. At the time of the Thesis Defense, the written dissertation must be completed in all respects and editorially acceptable for final approval, though it may be modified as a result of the exam. It is the responsibility of the student to ensure that all requirements of the Nuclear Engineering program and the Graduate School have been successfully completed in order to be awarded a Ph.D. degree.

The Thesis Defense must be announced online at least one business day prior to the defense. Fill out the electronic form “Final Examinations (M.S.-Thesis or Ph.D.)” found at <http://www.mse.ufl.edu/onpreforms/>. If you have any internal substitutes (maximum of 2), then indicate the substitution on the form. The entire Supervisory Committee must attend and examine the student. Two internal MSE members may be substituted if necessary, excluding the chair co-chair and external member. Final examination forms must be returned within 5 business days of the defense or ASO will process as a failed examination.

The student must submit the completed Electronic Thesis or Dissertation (ETD) signature page to ASO no later than three business days prior to the Graduate School Editorial Office’s deadline. If the ETD signature page is not completed at the final examination, then the student will be given

the ETD page for completion. The defense should be no more than 6 months before the Ph.D. degree is awarded.

The successful completion of the Final Examination must be updated into GIMS by the deadline defined by the UF Graduate School, which is posted on the UF Academic Calendar for each semester. *Note that this deadline is typically several weeks prior to the end of classes for that semester.* It is the student’s responsibility to ensure that their Final Examination Report is submitted to their Supervisory Chair with sufficient lead-time to permit review, feedback, modification, assignment of final grade, submission of Final Examination Report Form, and uploading of this form by the GAO.

If the student receives a U grade in the Final Examination, he/she must retake the exam in the next semester. The Final Examination may be retaken only once. If a second U grade is awarded, the student will be released from the program.

Table I. Summary of the graduate degree requirements.

SCH (Semester Credits Hours) Requirements	Master (Thesis)	Master (Non-thesis)	Doctor of Philosophy
Total SCH	30 ^a	30 ^a	90 ^{a,b}
NE Core Requirements	7	7	16-17 ^c
Graded 5000+ Credits	≥18	≥18	N/A
ENU Graded 5000+ Credits	≥12	≥12	≥15
Professional Development	N/A	N/A	6
Research/Special Project	≤6	≤6	variable
Supervisory committee members (minimum number)	3	1 ^d	4
Qualifying Exam	None	None	Yes
Final Exam	Oral defense and written thesis	Written ^e	Oral defense and written thesis
Time limit for completing degree	7 years	7 years	5 years ^e

^a Beyond B.S.

^b May include credit hours from Master’s program

^c 16 only if ENU 6135 equivalency established from previous degree

^d Supervisory Chair only

^e From admission to Ph.D. Candidacy, passing Qualifying Exam.

4. Courses and Registration

4.1. Registration Requirements

Full-time registration is usually 6-12 credits, depending on the semester and appointment. Graduate students on appointments as Graduate Research Assistants with a typical FTE of 0.5 are

required to register for 9 credits in the Fall/Spring term and 6 in the summer C term (or 3 in summer A and 3 in summer B). Students not on appointment may wish to enroll full time to finish their degrees in the minimum timeframe or may be required to enroll full time by external funding agencies or their academic units. See the MSE ASO or HR for information regarding FTE, required course hour enrollment, and other requirements associated with your appointment.

Students can register for courses on the registrar's website, <https://one.ufl.edu>. Students should seek advice from their advisor or the graduate coordinator before registration. Guidance will be provided for the registration in the form of the required courses and suggested electives. Students need to register on time to avoid unnecessary late registration fees. Registration and payment deadlines for each semester can be found at <https://catalog.ufl.edu/UGRD/dates-deadlines/>. Students need to pay any fees by the fee payment deadline, even if a tuition waiver has not been processed. Registration may be restricted. To check for record holds, registration holds, and late registration fees, go to Student Self Service (<https://www.student.ufl.edu>).

To review the anticipated schedule of courses for an upcoming semester, students should go to <https://one.ufl.edu/soc/>. Students have access to their degree audit online at www.student.ufl.edu. *Students are ultimately responsible* for ensuring they are on track to finish their degrees.

During the final semester, the student *must* be registered for *at least 3 credits* in fall or spring and *2 credits* in the summer in the following courses for each degree option: Master's Non-Thesis students must enroll in course work that counts toward the graduate degree; Master's Thesis students must enroll in ENU 6971; and Doctoral students must enroll in ENU 7979 before passing the qualifying exam and ENU 7980 thereafter. This minimum final semester registration is applicable to all graduate students. The Graduate School will not accept petitions to this policy. Note that graduate assistants may be required to register for more credits and should see their letter of appointment for guidance.

Graduate students who complete all graduate degree requirements during a given semester but fail to meet a deadline specified by the Graduate School, may receive their degree in the following semester without registering for the minimum three credits (this is called "clearing prior"). Please see the ASO for specific eligibility requirements defined by the Graduate School.

Graduate students will be evaluated at the end of each semester by the chair of their committee. The form can be obtained online at <http://www.mse.ufl.edu/?p=5046>.

4.2. Courses and Credits

Courses listed at 5000 and above are considered graduate courses and are limited to graduate students. Courses numbered 7000 and above are designed primarily for Ph.D. candidacy students, who have passed their Qualifying Exam.

Generally, graduate courses may not be repeated for additional credit. However, selected courses are designed to be taken multiple semesters. These repeatable courses are designed and typically subjected to a maximum number of credit hours, including courses numbered ENU 6910, ENU 6936, ENU 6971, ENU 7979, and ENU 7980.

No more than five credits each of ENU 6910 (Supervised Research) may be taken. Course numbers ENU 6971 (Masters Research), ENU 7979 (Advanced Research), and ENU 7980 (Doctoral Research) cannot count towards the Masters Non-Thesis degree. Courses numbered ENU 7979 and ENU 7980 are not eligible to count toward the M.S. degree program.

A maximum of 6 credits of S/U graded work may be counted towards the degree.

A Tuition and Fee Calculator is provided by UF at <http://www.fa.ufl.edu/bursar/current-students/>.

4.3. Transfer Credit

Graduate level courses from another university, may be considered for transfer to count towards the M.S. or Ph.D. degree with approval of your supervisory chair or the graduate coordinator. For the M.S. program, up to nine credits may be transferred. For the Ph.D. program, up to 30 credits may be transferred. All work transferred must be coursework taken with a grade of B or better. For Transfer of Credit, students need to contact Academic Services Offices and send the transcript by email to advising@mse.ufl.edu. The final decision will be made by the graduate school. Petitions for transfer of credit for a master's degree must be made during the student's first term of enrollment in the Graduate School. All work, including transferred credits, counted toward the degree must be completed during the seven years immediately preceding the date which the degree is awarded.

4.4. Add/Drop

Courses may be dropped or added during the drop/add period without penalty; however, students on fellowships or assistantships must clear these changes with their faculty advisor prior to modifications. This period typically lasts five UF calendar days, or two days for summer sessions, beginning with the first day of the semester (exact dates available on <https://student.ufl.edu>). Classes that meet for the first time after the drop/add period may be dropped without academic penalty or fee liability by the end of the next business day after the first meeting of the class. Note, this does not apply to laboratory sections. After this period, a course may be dropped and a W will appear on the transcript. *Students become financially liable for any course added or dropped after the deadline, including students with fee waivers.*

4.5. Retaking Courses

Graduate students may only repeat a course once in which they earn a failing grade. Grade points from both the initial failed attempt and the second attempt are included in computing the grade point average. The student receives credit for the satisfactory attempt only.

5. Grades

The only passing grades for graduate students are A, A-, B+, B, B-, C+, C, and S. A student is considered in good academic standing if the student's GPAs are above 3.00 (truncated). There is an overall GPA, an MSE major GPA and if elected a minor GPA that all have to be at least 3.00. If any of these GPA's drops below 3.00 the student is in academic probation, which triggers limitations in course selection for registration. Students with less than 3.00 GPA may not hold an assistantship or fellowship. Students also cannot graduate if any of their GPAs are below 3.00 (truncated). Grade points are not designated for S and U grades and are not used in calculating the grade point average; however, a grade I (incomplete) will convert to a 0.0 credit if not changed within 1 semester. All letter graded courses taken as a graduate student are used in calculating the cumulative grade point average. Letter grades of C-, D+, D, D- or E are not considered passing at the graduate level, although the grade points associated with these letter grades are included in grade point average calculations.

6. Research

All students conducting research in a laboratory must be registered for research credits or on a paid appointment. All researchers must follow appropriate NEP and MSE policies for laboratory access (see your Supervisory Chair for guidance). International students that seek to work in a research laboratory at UF, however, are *required to either be enrolled in a research course or be paid for their effort*, to ensure compliance with student visa policies. The specific course number to enroll in order to account for research effort is dependent upon the degree program (MS or PhD) and desired credit. See Section 3.10 for further details regarding appropriate research courses.

Safety and Responsible Conduct in Research training is required *prior* to enrollment in research credit (see Sections 6.1 and 6.2 for details). This is *enforced* for students on NSF, NIH, and USDA awards.

6.1. Safety

The Materials Science & Engineering Department, in collaboration with the Herbert Wertheim College of Engineering, is committed to providing a safe and healthy working and learning environment for all of its students (<https://www.eng.ufl.edu/labsafety/>). Sustaining a culture of excellent laboratory safety starts with rigorous training. To facilitate appropriate training of safety concerns, all MSE students are required to complete a laboratory checklist prior to gaining access to the laboratory:

<https://www.eng.ufl.edu/labsafety/resources/engineering-laboratory-safety-guidelines-and-training-checklist/>.

This checklist outlines required general safety training needed for general work in the building. Additional training will be needed, given the specific research conducted and risk encountered in your work. Guidance on the lab-specific training needed will be provided by your Supervisory Chair, as all Chairs are required to provide a safe working environment, ensure adequate safety training of their personnel, and maintain appropriate safety records for their own labs. Remember that most training is annual, so it must be updated. To further promote a culture of safety, our department has a MSE Student Safety Council (SSC), which is comprised of graduate and undergraduate students, faculty, and the MSE Director of Undergraduate Laboratories; an Engineering Safety Steering Committee serves at the college level. Students are strongly encouraged to join these councils. Any concerns regarding safety or training should be directed to your Supervisory Chair, the SSC, the HWCOE Director of Laboratory Safety, or UF Environmental Health and Safety (<http://www.ehs.ufl.edu/>).

6.2. Responsible Conduct in Research (RCR)

Responsible conduct in research (RCR) is expected for all University of Florida students. Students conducting research will be expected to follow ethical standards when conducting research, from identification of potential conflicts of interest to responsible authorship and publication. To assist in supporting this endeavor, all students enrolled in research credits and students funded by NSF, NIH, or USDA awards must complete the general RCR training:

<http://research.ufl.edu/faculty-and-staff/research-compliance/responsible-conduct-in-research-rcr-training/navigation-to-citi-for-rcr-responsible-conduct-of-research-training.html>.

7. General Information

7.1. Graduate Coordinator

The graduate coordinator is the advisor to all admitted and present UF NES graduate students who have not yet joined a research group or don't have a research advisor. NES non-thesis master students may continue to be advised by the graduate coordinator through their degree. The graduate coordinator helps in planning the courses, advises on certificates, minors, and majors and guides the students in addition to the rules provided by the graduate school and the department. Furthermore, transfer credits are processed. The graduate coordinator is not able to assist applicants or non-admitted students. Admitted international students can get additional letters for US-visa issuance if the US-embassy requires more information than was provided by the UF International Office.

7.2. Academic Services Office

The Academic Services Office (ASO) serves as the graduate advising and administration unit and is administered by the Associate Chair of MSE and the Academic Advisor. The Academic Advisor serves to assist graduate students in admission, deadlines, course requirements, registration, and routine administrative issues. Inquiries regarding the graduate program should first be made to the Academic Advisor (advising@mse.ufl.edu), which can then be forwarded to the Associate Chair, if needed. The Academic Advisor is available to meet with any student during office hours or by appoint, which can be scheduled by email to advising@mse.ufl.edu.

7.3. NE Graduate Program Committees

The Director of the NE Program oversees the operation of the NES Graduate Program, is responsible for academic program administration and policy directions, ensuring policy compliance with NEP, MSE, and the Graduate School. The admissions committee oversees admission of incoming students. The curriculum committee suggests academic policy changes. The petitions committee reviews student petitions. A student may petition with academic issues by submitting a formal request via the MSE website with the Academic Services Office. Petitions must be formally approved or disapproved by the petitions committee.

7.4. Department Student Council

The purpose of Department Student Council (DSC) is to 1) provide an agency for the coordination of materials science & engineering student activities to promote common goals and interests of the MSE graduate student body, 2) advance and enrich the academic and educational experience of graduate students in the UF MSE Department, and 3) seek the improvement of NE and MSE graduate student education through active communication and representation between NE and MSE students and faculty, and other governing bodies at the University of Florida such as the Graduate Student Council and UF Student Government. All MSE graduate students are welcome to attend DSC meetings and are encouraged to become involved in this organization. See the website for more information: <http://www.mse.ufl.edu/about/societies/>.

7.5. Graduate Guidelines and Catalog Year

The catalog year determines the set of academic requirements that must be fulfilled for graduation

from the program. Students graduate under the catalog in effect when they begin enrollment for that degree at UF, provided they maintain continuous enrollment. A catalog year runs from Summer B of one year to Summer A of the next year. Students who are unregistered for 2 or more consecutive semesters must reapply for admission and will be assigned the catalog in effect when enrollment is resumed. Students transitioning to a more advanced degree (e.g. Masters to Doctoral) must follow the catalog year in effect when they begin the new degree program. If a catalog change occurs during the program of a student, the student has the choice to select the current catalog year requirements or remain under the original catalog requirements.

7.6. Graduate Assistantships, Fellowships, and Awards

The Department of Materials Science & Engineering offers Graduate Assistantships to select students in good academic standing. Stipend rates paid are determined by the department and based on graduate standing and degree program. Interested students should follow up with the Academic Services Office (ASO) regarding the availability of assistantships and the procedure for applying. Students are highly encouraged to apply for external fellowships such as NSF, NIH NRSA, NDSEG, DoD, DOE, and DHS. See the MSE website for more information on these opportunities: <http://www.mse.ufl.edu/fellowships/>.

Out-of-state or international students, who are not on traditional funding, may be awarded partial financial support via the College Award (CA). No other funding, e.g. assistantship and fellowship, may be held concurrently. The students must notify ASO upon receipt of other funding, e.g. fellowship or assistantship. Support for services that do not contribute to their degree program is permitted, e.g., outside employment, temporary Other Personnel Services (OPS) in department. The CA provides for a maximum of 36 credit hours within the first two years of enrollment. Students pay a set rate per credit hour; this amount is provided in the original offer letter. The students must maintain a minimum 3.0 GPA in both the departmental and cumulative courses.

Students can find on-campus jobs through www.jobs.ufl.edu. Graduate students cannot volunteer to work in the department, they must either be compensated for their work in a lab or be registered for research under the faculty member's supervision.

Students appointed as Graduate Assistants or Graduate Fellows are still responsible for paying applicable student fees per semester credit hour. Further, they will be financially liable for excess credits beyond the required registration (see appointment letter for details). If a student on appointment drops below the required registration at any time in the semester, the student becomes financially liable for the entire registration cost.

7.7. Professional Work

Graduate students may receive credit toward their degrees for courses in professional programs (e.g., D.V.M., or M.D.) when their advisors and graduate coordinators certify that the course work is appropriate for their programs and when the students receive permission from the academic units and colleges offering the courses. See the UF Graduate Catalog (Courses and Credits section) for further details.

8. Internships

Students are required to notify ASO and if on funding HR about any internship they plan to accept.

Students may register for internship credits by completing and submitting the internship form at <http://www.mse.ufl.edu/onpreforms/>. The offer letter from the company should be attached. The student needs to have permission from their supervisory committee chair or graduate coordinator if the student has no supervisory committee. ASO will review the form and notify the student via email if the registration is approved or not. If approved ASO will register the student for EGN 5949.

If registered for EGN5949, the following forms should be submitted to ASO electronically no later than a week before classes end for the term registered in order to receive grade for that term:

- EGN5949 Employer's Student Evaluation Form
- EGN5949 Student's Evaluation of Employer

These forms are available at <http://www.mse.ufl.edu/onpreforms/>.

International students can accept internship through Curricular Practical Training (CPT). Instructions for the CPT and the registration requirements can be found at <http://www.ufic.ufl.edu>. To apply students should follow the registration for internship instructions above by the appropriate deadline: April 1 – summer CPT, July 1 – fall CPT, and November 1 – spring CPT.

Payroll and Tax Information: Students on formal funding (assistantship, fellowship, etc.) should refer to the Tax Office for information on whether taxes will be taken out of their stipends: <http://www.fa.ufl.edu/tax/>.

Graduate Insurance: Students on appointments receiving health care benefits, please refer to <http://www.hr.ufl.edu/benefits/gatorgradcare/> for additional information.

9. Academic Honesty

All enrolled UF students have signed a statement of academic honesty upon enrollment, which commits the student to holding themselves and their peers accountable for maintaining the highest standard of honor (see <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>). This standard is essential to maintain the integrity of the program. Students are expected to work independently on coursework and program examinations, unless specifically authorized by the instructor or supervisor. It is always better to clarify permitted degrees of collaboration than to assume and be incorrect. Plagiarism of any form, from course assignments to doctoral dissertations, is a serious offense and will never be tolerated. Students are responsible for seeking and utilizing resources to understand the definition of plagiarism, see for example:

<https://mediasite.video.ufl.edu/Mediasite/Play/adaa44500eaf460a84f238e6b9a558f9>,
<http://usingsources.fas.harvard.edu/icb/icb.do?keyword=k70847&pageid=icb.page342057>.

Further, students can register for iThenticate, TurnItIn, or other plagiarism detection software to help screen their documents to avoid inadvertent plagiarism. Failure to comply with the honor code will result in disciplinary action that can span from grade penalties up to dismissal from the program.

10. Satisfactory Progress and Scholarship

Every student is expected to make satisfactory progress toward graduation each semester. This includes maintaining a grade point average (GPA) of B (3.0) or higher both cumulatively and in

their major (and in the minor, if a minor is declared), the timely meeting of academic milestones, e.g. passing the Qualifying Examination, and obey the Honors Code. Students with a GPA of less than 3.0 GPA may not hold an assistantship or fellowship.

Students who fail to make satisfactory progress may be required to seek advisement and fulfill specific conditions in order to continue in the major, or may be denied further registration in the program. Students who fail to maintain the minimum 3.0 GPA in either the cumulative or departmental courses are placed on Academic Probation and may need to petition to maintain funding.

11. Correspondence and Forms

Students must correspond and comply with outlined policies via electronic or hardcopy means. For electronic communications, all students are provided with a University of Florida email account (ufl.edu) upon entrance to the program. ASO will use this UF account for all official communications. *Students are responsible for promptly and thoroughly reading emails from these accounts and are expected to communicate in a professional manner.* For hardcopy correspondence, all documents, including forms, should be fully completed and submitted directly to the ASO. To minimize paperwork burden, the ASO encourages electronic submissions (email to advising@mse.ufl.edu) and accepts electronic signatures, unless specifically stated otherwise. Submission of forms may require the student to comply with deadlines. Otherwise financial penalties may occur, e.g. for late registration.

12. Preparation for Final Semester

It is the student's responsibility to ascertain that all requirements have been met and that every deadline is observed. Deadline dates are set forth by the registrar's office (<https://one.ufl.edu>), the MSE department, and the NE Program.

Prior to the semester of graduation, students should meet with ASO staff to conduct a graduation check. Students must notify the ASO of graduation plans no later than the Graduate School registration deadline for their program. At the beginning of the final semester, students must also file a degree application online through Student Self Service (<https://student.ufl.edu>) and must meet minimum registration requirements. Master's Thesis and PhD students should obtain the checklist (<http://graduateschool.ufl.edu/graduate-life/graduation/graduation-checklist/>) for their relevant degrees from the Graduate School website to ensure compliance with MSE and Graduate School requirements and final examination deadlines posted at <http://graduateschool.ufl.edu/graduation/thesis-and-dissertation>.

Students must register for the appropriate credits for their degree. Students receiving a tuition waiver (GRA, GSPA, etc.) must follow their tuition waiver requirements (typically 9 or 12 credits in spring/fall and 6 in summer).

PhD students without a tuition waiver need to register for a minimum of 3 credits in ENU 7980 (Doctoral Research) if the final semester is fall or spring and 2 credits if the final semester is summer.

MS Non-thesis students without a tuition waiver need to register for a minimum of 3 credits, which are applicable to the degree if the final semester is fall/spring and 2 credits if the final semester is summer.

MS Thesis students without a tuition waiver need to register for a minimum of 3 credits in ENU 6971 (Master's Research) if the final semester is fall/spring or 2 credits if the final semester is summer.

If this is a terminal degree, then student must complete the Departmental Employment Questionnaire and Exit Interview Checklist and return them to ASO no later than the last day of classes for the term. These forms can be found on the Student-Forms page of the MSE website <https://mse.ufl.edu/forms>.

For deadline information regarding submissions to the Graduate Editorial Office, please visit: <http://helpdesk.ufl.edu/application-support-center/graduate-editorial-office/>. When the dissertation or thesis is ready to be put in final form, the following website offers formatting information: <https://asc.helpdesk.ufl.edu/>.

It is solely each student's responsibility to ensure that all required forms are submitted in accordance with Department and Graduate School deadlines.

13. Student Responsibility

The student is responsible for becoming informed and observing all program regulations and procedures. The student must be familiar with UF Graduate Catalog general regulations and requirements, specific degree program requirements, and offerings and requirements of the major academic unit. *Rules are not waived for ignorance*. It is also the student's responsibility to check their UF email on a regular basis. Failure to do so will not be a valid excuse for missing deadlines. Under no circumstances will a faculty advisor be responsible for meeting student deadlines.

From Graduate School Handbook

GRIEVANCE PROCEDURE FOR ACADEMIC PROBLEMS.

The University of Florida is committed to a policy of treating all members of the university community fairly in regard to their personal and professional concerns. A formal grievance procedure exists to ensure each graduate student is given adequate opportunity to bring complaints and problems of an academic nature, exclusive of grades, to the attention of the University administration with the assurance each concern be given fair consideration. Individual academic units, departments or colleges may have more detailed grievance procedures. The student should check with his or her program's graduate coordinator for information about individual unit grievance procedures. A grievance is defined as dissatisfaction occurring when a student thinks that any condition affecting him or her is unjust or inequitable or creates an unnecessary hardship. Areas in which student grievances may arise include scientific misconduct, sexual harassment, discrimination, employment-related concerns, and academic matters. The University has various mechanisms available for handling these problems when they arise. In general, it is desirable to settle concerns in an informal fashion rather than initiating a formal grievance. Communication is a key element. As soon as an issue arises, the student should speak with either the supervisory committee chair or the departmental graduate coordinator. If neither of these individuals is available or if they are part of the circumstance of concern, the department chair is the next alternative. Grievance Procedure Step 1. Oral discussion between the graduate student and the person(s) alleged to have caused the grievance is strongly encouraged. The discussion should be held as soon as the student first becomes aware of the act or condition that is the basis of the grievance. The student may wish to present his or her grievance in writing to the person(s) alleged to have caused the grievance. The person alleged to have caused the grievance must respond to the student either orally or in writing. Step 2. If the student considers the response to the discussion and/or written document from Step 1 to be unsatisfactory and feels that the grievance still exists, the grievance should be brought in writing, with all supporting documentation, to the department chair or a designated representative of the department. The department chair or designated representative of the department must respond to the student's grievance in writing in a timely fashion. Step 3. If the grievance is still considered to be unresolved, the student may then file the grievance in writing with the dean of the college, who shall investigate the matter and respond to the student in writing within a reasonable timeframe. Step 4. The right of appeal in writing to the Ombuds for graduate and professional students, as the authorized representative of the President of the University, shall be the final appeal but only after the above steps 1–3 have been exhausted. The Office of the Ombuds is located in 31 Tigert Hall, 392-1308 and their website is <http://www.ombuds.ufl.edu>. Other Grievance Resources: Most employment-related grievances are covered by the Collective Bargaining Agreement, Article 22, between the Florida Board of Education of the State University System and Graduate Assistants United. Students with employment-related concerns should contact the GAU office at 392-0274, or Human Resource Services at 352-392- 2477. Allegations of research misconduct should be brought to the attention of the administrative officer (e.g., department chair, dean) to whom the accused party reports. Students may wish to seek advice from the Director of the Division of Research Compliance, 460 Grinter, 392-9174, before making a formal complaint. Graduate students who have complaints or problems with other aspects of university life should consult the Dean of Students Office in 202 Peabody Hall, 392-1261 for the appropriate grievance procedure.