



Minimum Course Requirements

M.S. Degree

The Nuclear Engineering Program (UNEP) requires all Non-Thesis M.S. students to complete 30 credit hours of graded coursework. The 30 credit hours of graded coursework must include the following two core courses:

1. NUCL 6030: Graduate Radiation Interactions (3 cr.)
2. NUCL 6050: Reactor Physics (3 cr.)

In addition, students must complete four additional NUCL electives from the list below:

1. NUCL 6032: Graduate Radiochemistry (3 cr.)
2. NUCL 6060 Reactor Operation & Regulatory Policy (3 cr.)
3. NUCL 7110: Nuclear Environmental Engineering (3 cr.)
4. NUCL 7220: Analytical Nuclear Forensics (3 cr.)
5. NUCL 7000: Health Physics (3 cr.)
6. NUCL 7100: Nuclear Instrumentation with Labs (4 cr.)
7. NUCL 7500: Nuclear Safeguards (3 cr.)
8. MET E 6210: Nuclear Materials: Processing, Fabrication, Use and Disposal (3 cr.)

The remainder of the 30 credit hours may be acquired from the following options with approval of the student's supervisory committee:

- Up to 3 credits of independent research, taken as NUCL 5900 or 6900.
- Up to 12 credits of technical electives offered by other departments in engineering, science, and math-related disciplines.

Ph.D. Degree

The Doctor of Philosophy in Nuclear Engineering is awarded in recognition of distinguished scholarship and original contributions to knowledge. Although formal courses are required, the award is made primarily for creative scholarship rather than for accumulation of credits in courses. Thus, it is of prime importance that students begin research at the earliest possible time. Students may enter the Ph.D. program with a previous M.S. degree in nuclear engineering or a nuclear engineering-related field or may enter the program directly following a bachelor degree program (see Admissions Requirements).

M.S. to Ph.D.

The Nuclear Engineering Program requires all Ph.D. students with a previously awarded M.S. degree in nuclear engineering or a nuclear engineering-related field to complete a minimum of 18 additional credit hours of graded coursework and 14 credit hours of dissertation research. The 18 credit hours of graded coursework must include the following four core courses, which will serve as the basis for a student's qualifying exam:

1. NUCL 6030: Graduate Radiation Interactions (3 cr.)
2. NUCL 6050: Reactor Physics (3 cr.)
3. NUCL 7000: Health Physics (3 cr.)
4. NUCL 7100: Nuclear Instrumentation with Labs (3 cr.)

In addition, students must choose a minimum of two additional NUCL electives from the list below:

1. NUCL 6032: Graduate Radiochemistry (3 cr.)
2. NUCL 6060 Reactor Operation & Regulatory Policy (3 cr.)
3. NUCL 7110: Nuclear Environmental Engineering (3 cr.)
4. NUCL 7220: Analytical Nuclear Forensics (3 cr.)
5. NUCL 7500: Nuclear Safeguards (3 cr.)

If a student has proficiency in a core course(s) from their M.S. degree, then the student may replace the core course(s) with a NUCL elective or other related course that complements the student's research. However, students will still be required to demonstrate proficiency in topics covered by the core courses during their Qualifying Exam.

Direct Admit Ph.D. (B.S. to Ph.D.)

The Nuclear Engineering Program (UNEP) requires all direct admit Ph.D. students to complete a minimum of 30 credit hours of graded coursework and a minimum of 14 credit hours of dissertation. The 30 credit hours of graded coursework must include the following four core courses, which will serve as the basis for a student's qualifying exam:

1. NUCL 6030: Graduate Radiation Interactions (3 cr.)
2. NUCL 6050: Reactor Physics (3 cr.)
3. NUCL 7000: Health Physics (3 cr.)
4. NUCL 7100: Nuclear Instrumentation with Labs (3 cr.)

In addition, students must choose a minimum of two additional NUCL electives from the list below:

1. NUCL 6032: Graduate Radiochemistry (3 cr.)
2. NUCL 6060 Reactor Operation & Regulatory Policy (3 cr.)
3. NUCL 7110: Nuclear Environmental Engineering (3 cr.)
4. NUCL 7220: Analytical Nuclear Forensics (3 cr.)
5. NUCL 7500: Nuclear Safeguards (3 cr.)

The remainder of the 30 credit hours may be acquired from the following options with approval of the student's supervisory committee:

- Up to 3 credits of independent research, taken as NUCL 6900 or 7900
- Up to 12 credits of technical electives offered by other departments in engineering, science, and math-related disciplines that complement the student's research

An M.S. degree will be granted after completion of at least 30 hours of coursework, successful completion of the qualifying exam, and submission of one peer-reviewed first-author paper from a journal approved by the committee..

Continuous Registration Requirements

Graduate School requires graduate students to be registered from the time of admission through completion of all requirements for the degree they are seeking, unless granted an official Leave of Absence (domestic students only) or Vacation Semester (international students only). This policy does not include summer registration for domestic students. All students must be continuously enrolled for a minimum of three (3) credit hours each semester (full time is considered 9 credit hours) from the time of formal admission through completion of all requirements, comprehensive exam, and thesis/dissertation (if applicable) for the degree they are seeking. The Nuclear Engineering Program requires all Graduate Research Assistant (GRA) on payroll during summer semester to register for 3 credits of thesis research credits (NUCL 6970 or 7970), unless a student is no longer tuition benefit eligible. During summer semesters, the tuition benefit program allows only 3 credit hours of tuition benefit, so if students want to take a course instead of thesis or dissertation credits, contact the program graduate advisor.

