

Master of Science Degree in Nuclear Science and Engineering Plan of Study

There are 32 credit hours required for the major. Approximately half of the course credits are engineering and the other half technical electives, subject to the approval of the student's major advisor. The thesis project (at least 6 credits) consists of study and research that complements the coursework selected. Each student must also complete two semesters of seminar, an important component in developing research and communication skills.

A non-thesis option is available to any student who has had two or more years of practical engineering experience. Instead of a six-credit thesis, the student will substitute an additional 3-credit course and a 3-credit written report. The report may be related to the student's full-time employment. The student's advisor approves the contents of the report, which is made available for distribution within the university, particularly to the student's oral examination committee.

The Nuclear Science and Engineering MS program is flexible and can accommodate students with undergraduate nuclear engineering as well as those with no prior nuclear courses. The program is open to any student with a BS in a traditional engineering field, or in physics, chemistry or math. Pre-requisite courses are thermodynamics, and fluid mechanics or modern physics, or the equivalent.

Required Courses

12 credits from the following list:

NE 5521 Mathematical Methods for Nuclear Engineers 3 cr

OR

PHYS 6602 Theoretical Methods of Physics 3cr

NE 5545 Reactor Physics 3 cr

NE 5546 Nuclear Fuel Cycle System Analysis 3 cr

NSEN 6684-6685 Nuclear Engineering Basics 6 cr

NSEN 6601 Nuclear Engineering Experiments 3 cr

NSEN 6608 Radiation Transport 3 cr

NSEN 6609 Radiation Detection 3 cr

NSEN 6618 Radioactive Waste Management 3 cr

NSEN 6619 Nuclear Waste Imobilization 3 cr

12 credits of Engineering or Physics courses approved by the major advisor

NSEN 6650 Thesis 6 cr

ENGR 6651 Seminar 2 cr

Total credits: 32 cr