The Mines nuclear science and engineering program delivers a traditional nuclear engineering core curriculum, while emphasizing all aspects of the nuclear fuel life cycle and policy issues surrounding related activities. Students in each of the three graduate nuclear engineering degree programs are exposed to a broad systems overview of the complete nuclear fuel cycle and gain detailed expertise in one or more aspects of the nuclear fuel cycle.

DEGREE OPTIONS

- **Doctor of Philosophy**: 72 credit hours, comprised of 13 credit hours of core courses, 21 credit hours of electives, 4 credit hours of seminar, a minimum of 24 credit hours of research and 10 credit hours of either research or electives.

- **Master of Science (thesis based)**: 36 credit hours, comprised of 13 credit hours of core courses, 6 credit hours of elective courses, a 2-credit seminar, a minimum of 12 credit hours of research and 3 credit hours of either research or elective courses.

- **Master of Engineering (non-thesis)**: 36 credit hours, comprised of 13 credit hours of core courses, 21 credit hours of elective courses and 2-credit seminar.
NUCLEAR SCIENCE AND ENGINEERING | ME, MS, PhD

RESEARCH AREAS

The program emphasizes the nuclear fuel life cycle, including uranium exploration and fuel processing, design, production and operation of nuclear power systems, fuel recycling, storage and waste remediation, radiation detection and damage and related policy issues.

- Advanced reactors
- Nuclear fuel cycles
- Radiochemistry and nuclear forensics
- Nuclear security
- Radiation detection and measurement
- Materials in extreme environments

CORE COURSES

- Introduction to Nuclear Reactor Physics
- Introduction to Nuclear Reactor Thermal-Hydraulics
- Nuclear Reactor Laboratory
- Nuclear Reactor Design I & II

PROGRAM ADMISSION REQUIREMENTS

- A personal statement that illustrates the candidate’s interest in nuclear engineering.
- A bachelor’s degree in engineering, physics, chemistry or related field is required. Core course prerequisites are as follows: mathematics coursework up to and including differential equations; physics coursework up to introductory nuclear physics (or equivalent); and coursework in thermodynamics, heat transfer and fluid flow (or equivalent).
- Graduate Record Examination (GRE) with quantitative section score above 160.
- For international applicants or applicants whose native language is not English, a TOEFL score of 79 or higher (or 550 for the paper-based test) is required. In lieu of a TOEFL score, an IELTS score of 6.5 or higher will be accepted.

DOMESTIC APPLICATION DEADLINE: JULY 1

WITH ADDITIONAL QUESTIONS, CONTACT:
Office of Graduate Admissions
303-273-3247 | grad-app@mines.edu

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