

School of Engineering Nuclear Engineering, B.S.NE

Broad Learning Goals

Graduates of the undergraduate program in nuclear engineering will:

- A. Have the technical knowledge and skills to achieve success in their nuclear engineering-related professional or post-graduate educational endeavors.
- B. Think creatively, applying problem-solving skills to engineering design and other professional activities.
- C. Be able to communicate effectively.
- D. Be able to function effectively on independent projects and as a member of multidisciplinary teams.
- E. Understand their professional and ethical responsibilities, and the social and environmental impacts of their work.
- F. Pursue post-graduate learning and professional development throughout their careers.

Student Learning Outcomes

By the time the graduates complete the nuclear engineering program, they will have successfully demonstrated the following:

1. an ability to apply knowledge of mathematics, science, and engineering.
2. an ability to design, conduct, and analyze experiments involving nuclear* and non-nuclear processes, interpret data, and report the results..

3. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. an ability to function on multidisciplinary teams.
5. an ability to identify, formulate, and solve nuclear* and related engineering problems.
6. an understanding of professional and ethical responsibility.
7. an ability to communicate effectively.
8. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. a recognition of the need for, and an ability to engage in life-long learning.
10. a knowledge of contemporary issues.
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

* Nuclear engineering problems include nuclear processes (fission, fusion, decay, etc.), radiation interaction with matter, radiation transport, thermal hydraulics, and radiation detection and measurement.