NUCLEAR, PLASMA, & RADIOLOGICAL ENGINEERING, BS

for the degree of Bachelor of Science in Nuclear, Plasma, & Radiological Engineering

Nuclear, Plasma, and Radiological Engineering encompasses a broad and diverse but complimentary set of engineering disciplines with a wide variety of applications – in energy production, plasma processing of materials, fusion development, biomedical research and healthcare, and nuclear safeguards and radiation detection. The first two years of the NPRE curriculum provides a strong foundation in sciences (physics, mathematics, and chemistry), in engineering (mechanics and thermodynamics), in computer use, and in nuclear energy systems. Most of the technical core and concentration coursework takes place in the third and fourth years of the curriculum. Students choose from among three concentrations: power, safety and the environment; plasma and fusion science and engineering; and radiological, medical and instrumentation applications. Each concentration requires students acquire a depth of understanding of the area but with flexibility to develop advanced technical expertise depending upon the student’s specific educational and professional interests. Students demonstrate proficiency in the engineering design process in a senior design capstone course.

Students pursuing this major must select one of three concentrations:

- Plasma & Fusion Science & Engineering (http://catalog.illinois.edu/undergraduate/engineering/nuclear-plasma-radiological-engineering-bs/plasma-fusion-science-engineering/)
- Power, Safety & Environment (http://catalog.illinois.edu/undergraduate/engineering/nuclear-plasma-radiological-engineering-bs/power-safety-environment/)
- Radiological, Medical & Instrumentation Applications (http://catalog.illinois.edu/undergraduate/engineering/nuclear-plasma-radiological-engineering-bs/radiological-engineering-radiological-medical-instrumentation-applications/)