

**College of Engineering
Department of Mechanical Engineering
Minor: Nuclear Engineering
For students entering under UG Catalog 2023-2024**

PURPOSE: The purpose of the Minor in Nuclear Engineering is to (1) provide a more thorough technical foundation in nuclear engineering; and (2) prepare the student for a career in the nuclear industry or for graduate studies in nuclear engineering.

MINOR REQUIREMENTS:

1. Complete the basic requirements for a Bachelor's degree.
2. Complete a minimum of 18 credits of nuclear engineering-related coursework – 12 credits of required courses and 6 credits of elective courses from the attached, approved list.
3. Maintain a 2.0 in-Minor GPA with a minimum grade of C- or better in all courses which count toward the Minor, with the exception of MATH 2214 which must receive a passing grade. No Pass/Fail grades will be permitted.

1. REQUIRED COURSES:

Course No.	Title	Credits
MATH 2214	Introduction to Differential Equations	3
NSEG 3145*	Fundamentals of Nuclear Engineering – I (Fall)	3
NSEG 3146*	Fundamentals of Nuclear Engineering – II (Spring)	3
NSEG 3604	Radiation Detection, Protection & Shielding	3
Section 1 total number of credits		12

*NSEG 5114, Nuclear Engineering Fundamentals, may be substituted for the NSEG 3145/3146 sequence but then a third elective course will be required for a total of 18 credit hours

2. ELECTIVE COURSES (select two):

Course No.	Title	Credits
NSEG 4204	Nuclear Fuel Cycle	3
NSEG 4214	Nuclear Power Plant Operations	3
NSEG 4424	Reactor Thermal Hydraulics	3
MSE 4384	Nuclear Materials	3
NSEG 4974	Independent Study (3 hours max)	3
NSEG 4994	Undergraduate Research (3 hours max)	3
Section 2 total number of credits		6

3. PREREQUISITES

Prerequisites	Course & Number	Course Name
MATH 2214	NSEG 3145	Fundamentals of Nuclear Engineering Part 1
NSEG 3145	NSEG 3146	Fundamentals of Nuclear Engineering Part 2
PHYS 2306, coreq: MATH 2214	NSEG 3604	Radiation Detection, Protection & Shielding
Coreq: NSEG 3146	NSEG 4204	Nuclear Fuel Cycle
NSEG 3146	NSEG 4214	Nuclear Power Plant Operations
NSEG 3145	NSEG 4424	Reactor Thermal Hydraulics
MSE 3044 or ME 3304, MSE 3054 or ESM 3054 or ME 3614	MSE 4384	Nuclear Materials

It is the responsibility of the student to assure that all prerequisites are met prior to registration for any course within the Minor.