

UG-minor in Nuclear Engineering

The UG Minor in Nuclear Engineering is jointly offered by the Department of Mechanical Engineering and the Department of Energy Science and Engineering.

Academic Requirements

The Minor comprises a structured set of theory courses designed to provide students with a broad foundation in nuclear engineering, as outlined below.

- As per Institute norms, a UG student is required to complete a minimum of 30 credits to earn the Minor.
- These 30 credits are to be earned through five theory courses, each carrying 6 credits.
- Of the five courses, three are core courses and two are electives. The two electives are to be completed over Semesters 2, 3, and 4. The student may choose to complete the two elective courses in one semester or spread it over two semesters subject to the available course offerings.
- The theory courses must be selected from the Autumn or Spring course basket corresponding to the semester in which they are offered. The list of courses included in the Autumn and Spring baskets is provided in Elective Basket Table.

Course Structure

Semester	Core Courses	Elective Basket Options
Semester 1 <i>(Autumn)</i>	ME 695 Introduction to Nuclear Engineering / EN xyz: Fundamentals of Nuclear power	NONE
Semester 2 <i>(Spring)</i>	EN 613: Nuclear Reactor Theory/ME 729 Nuclear Reactor Analysis	Student could take one or two courses from Spring Basket
Semester 3 <i>(Autumn)</i>	Nuclear Measurements (ME 6120)	Student could take one or two courses from Autumn Basket
Semester 4 <i>(Spring)</i>	-	Student could take one or two courses from Spring Basket

Elective Basket

Autumn Elective Basket
• AE 647 Plasma Physics for Engineers • ME 704 Computational Methods in Thermal and Fluid Engg. • ME 6113 Computational Modelling for Nuclear Applications • ME 662 Convective Heat Transfer • EN 618 Energy System Modelling • EN 606 Energy Resources Economics
Spring Elective Basket
• ME 699 MHD • ME 738 Nuclear Reactor Thermal Hydraulics • ME 666 HX Design • EN 642 Power Generation