NUCLEAR ENGINEERING

Bachelor of Science in Nuclear Engineering (BSNE)

2025 Catalog Year

Credit hours required for graduation:120[6]

FRESHMAN YEAR

FALL SEMESTER			SPRING SEMESTER		
NUCE 1110	Introduction to Nuclear Engineering	1	PHYS 1310	Calculus Based Physics I[2]	3
CHEM 1215 (or 131)	General Chemistry I for STEM Majors[2] (or Principles of Chemistry I)	3	CHEM 1225 (or 132)	General Chemistry II for STEM Majors [2] (or Principles of Chemistry II)	3
CHEM 1215L	General Chemistry I for STEM Majors Laboratory[2]	1	CHEM 1225L	General Chemistry II Laboratory for STEM Majors[2]	1
ENGL 1120	Composition II	3	MATH 1522	Calculus II[2]	4
MATH 1512	Calculus I[2]	4		GEN ED: Arts & Design[1]	3
	GEN ED:Humanities [1][8]	3		GEN ED: Communication[1]	3
	Total Semester Hours:	15		Total Semester Hours:	17

**First Year Learning Workshop*

SOPHOMORE YEAR

FALL SEMESTER			SPRING SEMESTER		
NUCE 2220	Principles of Radiation Protection	3	NUCE 2213	Laboratory Electronics for Nuclear, Chemical and Biological Engineers	3
PHYS 1320	Calculus Based Physics II	3			
MATH 2531	Calculus III	4	NUCE 2230	Principles of Nuclear Engineering	3
ECON 2110	Macroeconomic Principles	3	NE 314	Thermodynamics and Nuclear Systems	3
ENG 130L	Introduction to Engineering Computing[2]	3	NE 371	Nuclear Materials Engineering	3
	Total Semester Hours:	16	MATH 316	Applied Ordinary Differential Equations	3
				Total Semester Hours:	15

**Department Orientation*

JUNIOR YEAR

FALL SEMESTER[7]			SPRING SEMESTER		
NE 311	Introduction to Transport Phenomena	3	NE 312	Unit Operations	3
NE 315	Nuclear Engineering Analysis & Calculation	3	NE 313L	Introduction to Laboratory Techniques for Nuclear Engineering	4
NE 323L	Radiation Detection and Measurement	4			
STAT 345	Elements of Mathematical Statistics and Probability Theory	3	NE 330	Nuclear Engineering Science	3
	GEN ED: Second Language[1]	3	NE 410	Nuclear Reactor Theory	3
	Total Semester Hours:	16		Technical Elective[5]	3
				Total Semester Hours:	16

**Graduation Planning Workshop*

SENIOR YEAR[3][4]

FALL SEMESTER			SPRING SEMESTER		
NE 462	Monte Carlo Techniques for Nuclear Systems	3	NE 413L	Nuclear Engineering Laboratory I	3
NE 464	Thermal-Hydraulics of Nuclear Systems	3	NE 452	Senior Seminar	1
NE 497L	Nuclear Engineering Computational Methods	3	NE 498L	Nuclear Engineering Design	3
	Nuclear Engineering Technical Elective[4]	3	NE 470	Nuclear Fuel Cycle and Materials	3
				Nuclear Engineering Technical Elective[4]	3
	Total Semester Hours:	12		Total Semester Hours:	13

(1) Students should consult the online UNM catalog (http://catalog.unm.edu/), the online LoboTrax Degree Audit, or an academic advisor to obtain a list of acceptable courses to fulfill the general education requirements. These courses may be taken whenever convenient.

(2) Admissions to the BSNE degree program requires completion of 19 hours of math, science, and engineering courses listed in the freshman year with a grade of "C" or better, and a minimum UNM cumlative GPA of a 2.3.

(3) Students are encouraged to take the Fundamentals of Engineering (FE) Examination during their senior year. This is the first formal step toward professional registration. See Website: www.ncees.org/fe/.

(4) The NE Technical Electives are chosen from a list of approved upper division nuclear engineering courses, and the Technial Electives are chosen from a list of approved STEM-related technical courses. See department website or ask an academic advisor for complete list.

(5) Each course counted towards graduation must be completed with a grade of C- or better. Courses used to fulfill the General Education curriculum or pre-requisites outside of the major require a grade of C or better.

(6) Students must file a graduation application for the B.S.N.E. prior to the completion of the courses listed in the junior year fall of the NE curriclum (i.e. NE 311).

(7) For the UNM General Education Humanities requirement, we recommend picking a course that also satisfies the U.S. & Global Diversity and Inclusion requirement. Constult the catalog or an academic advisor for more details.