

Course Schedule - Fall 2006

Nuclear, Plasma, and Radiological Engineering

446 ***Prin Rad Interact Matter, I*** Credit: 3 hours.

Experimental and theoretical foundations of interaction of neutrons, photons, and charged particles with matter. Emphasis on topics that underlie the following applications; radiation detection, biological effects and radiation dosimetry, radiation damage and nuclear materials, neutron activation analysis, and fission and fusion energy systems. Classical theory of charged particle cross sections. Introductory quantum mechanics. Exact and numerical solutions of the Schroedinger equation. Quantum theory of cross sections. Photon interactions with atomic electrons and nuclei. Radioactive-series decay. Computer assignments illustrate fundamental concepts. Not available for graduate credit to nuclear engineering majors. Prerequisite: MATH 385; PHYS 214; credit or concurrent registration in MATH 241 (formerly MATH 243) or MATH 380; or equivalents.

CRN	Type	Section	Time	Days	Location	Instructor
30513	lecture	B	11:00 AM - 11:50 AM	MWF	room 203 Nuclear Engineering Lab	Axford, R