NUCLEAR ENERGY TRACK (NUC)

NUC 510 Nuclear Reactor Design, Operation and Safety (3 Credits)
Engineering & Comp Sci
Cross-listed with MAE 510
Principles of fission reactor analysis and design; reactor kinetics, operation and control; reactor thermo-fluid-dynamics; reactor safety; reactor accident case studies.

NUC 520 Radiochemistry, Nuclear Fuel Reprocessing and Nonproliferation (3 Credits)
Engineering & Comp Sci
Cross-listed with CEN 520
Radiochemistry for nuclear reactors and nuclear fuel reprocessing; nonproliferation issues through detection and monitoring, nuclear fuel reprocessing and design, waste vitrification and storage facilities, safety issues in nuclear fuel reprocessing.
Prereq: NUC 301

NUC 530 Electric Power Generation and Distribution (3 Credits)
Engineering & Comp Sci
Fundamental principles governing the electro-mechanical power conversion; transformer; generators; introduction to power distribution systems; reliability and safety issues related to power generation and delivery, particularly in nuclear power plants.3

NUC 540 Experiential Studies in Nuclear Technology (3 Credits)
Engineering & Comp Sci
Cross-listed with CEN 540
Introduction to experimental methods, procedures and research techniques through projects at participating government facilities, industrial entities or Syracuse University.
Prereq: NUC 301 and (NUC 510 or NUC 520)