

Fall 2023

ME 699 – ME Topics Course Descriptions

ME 699, Section D, 13073 – Intermediate Mechanics of Materials

Prerequisite: CE 533 – Mechanics of Materials

Counts as 500-level MNE Tech Elective. Does not count towards 600-level MNE Tech Elective.

This course is devoted to fundamental principles of mechanics and its application to design and analysis of engineering structures. Topics covered include stress and strain, elastic and inelastic properties of materials, axial loading, bending of beams, torsion of shafts, composite structures, unsymmetric bending, thin-walled structures under bending and torsion, and energy methods in structural analysis.

NE 620 – NE Topics Course Descriptions

NE 620, Section B, 16991 – Radiation Transport Simulation and Modeling

Prerequisite: NE 495 – Elements of Nuclear Engineering

Counts as 600-level MNE Tech Elective.

Become proficient in solving nuclear radiation transport problems using common Monte Carlo simulation software, including a new interface package called TOPAS for the Geant4 toolkit. Obtain capability to simulate shielding problems and radiation sensing problems you encounter in nuclear engineering courses such as Radiation Shielding and Radiation Detection. Leverage KSU's Beocat supercomputer and parallel computing to solve challenging problems that are impossible to obtain analytically.