Adhesive Bonding and Mechanical Joining of Plastics

WELDENG 7407

Credit Hours:
2.00 - 2.00

Course Levels:
Graduate (5000-8000 level)

Course Components:
Lecture

Course Description:
Fundamentals of adhesive bonding science and technology and methods for mechanical joining of plastics including fasteners, snap-fits, press-fits, swaging, and staking.

Prerequisites and Co-requisites:
Prereq: Grad standing, or permission of instructor.

Course Goals / Objectives:
- Understand structure and properties of polymeric adhesives
- Ability to understand theories of adhesion
- Understand and be able to develop procedures for adhesive bonding
- Ability to analyze and design mechanical joints using fasteners
- Ability to analyze and design mechanical joints using snap and press fits

Course Topics:
- Introduction to structure and properties of polymeric adhesives.
- Theories of adhesion.
- Adhesive bonding procedures and rapid curing methods.
- Design and testing of adhesive joints.
- Analysis and design of snap-fits.
- Analysis and design of press-fits.
- Analysis and design of bolted joints.
- Staking and swaging.
Designation:
Elective