



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Adhesive Bonding and Mechanical Joining of Plastics

WELDENG 4407

Credit Hours:

2.00

Course Levels:

Undergraduate (1000-5000 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: 4201, and enrollement as a WeldEng-BS major; 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.
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Designation:

Elective