



# Adhesive Bonding and Mechanical Joining of Plastics

## WELDENG 4407

**Credit Hours:**

2.00

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**Course Levels:**

Undergraduate (1000-5000 level)

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**Course Components:**

Lecture

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**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.

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**Prerequisites and Co-requisites:**

Prereq: 4201, and enrollement as a WeldEng-BS major; or permission of instructor.

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**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
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**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