



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Mechanical Processes

ENGRTEC 3700

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

Mechanical Processes is a 3-hr course designed to help students become familiar with modern mechanical processes as well as hydraulics/pneumatics and mechanical systems in manufacturing applications. The fundamentals and applications of mechanical systems included include pneumatics and hydraulics, cams, gears, bearings, gears, rotary and linear actuation.

Prerequisites and Co-requisites:

Prereq: 2500 and Engr 1182.

Course Goals / Objectives:

- Students should have an understanding of the kinematics of machine motion, typical machine elements, and the most common drive systems used to animate them.
 - Students will be familiar with belt, chain, and gear drive systems and be able to properly adjust all of them for tension, sag, and backlash.
 - Understand the terminology, functional role, applications, and industry practices related to fluid power systems
 - Ability to use computer software to design, simulate, and analyze various fluid power systems
 - Ability to function individually and on teams and communicate effectively
 - Ability to write in a clear and concise manner and to be able to convey information appropriately for technical reports
-

Course Topics:

- Introduction to Kinematics
 - Gear Drives
 - Belt Drives
 - Chain Drives
 - Cams
 - Bearings
 - Hydraulics
 - Pneumatics
-

Designation:

Required