



Manufacturing Processes II

ENGRTEC 2500

Credit Hours:

2.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Lab

Course Description:

Modern manufacturing processes. Design, create, and assembly of structure/objects by combining the manufacturing and graphical design knowledge. Opportunity to function individually and on teams and communicate effectively to learn to work in groups to accomplish a task. The skills are transferable to all areas of day-to-day professional life which makes it valuable in other contexts.

Prerequisites and Co-requisites:

Prereq: 1500.

Course Goals / Objectives:

- Ability to write in a clear and concise manner and to be able to convey information appropriately for technical reports
 - Ability to function individually and on teams and communicate effectively
 - Ability to understand the operations of the advanced functions machine shop equipment and equipment selection to perform an operation
 - Ability to understand the material properties and basic operations and of fabrication and joining processes.
 - Ability to connect functions of machine equipment and technical drawings Ability to design, build, and test a device that will meet design criteria set forth in the project
 - Ability to design, build, and test a device that will meet design criteria set forth in the project guidelines.
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Course Topics:

- Heat Treatment/Material Fabrication
 - Welding Process
 - Soldering/brazing
 - Rapid Prototyping/Computer Age Machining (CNC)
 - 3-D Printing/Quality Control
 - Plastic Forming/Injection Molding
 - Forging/Casting
 - Comprehensive Project
 - Journal Article Review and Presentations
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Designation:

Required