ISEN 3723L - Manufacturing Processes Lab

Fall 2026 Syllabus, Section 01, CRN 43564,

Credit hours: 1

Instructor

Bharat Yelamanchi

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Public Instructor Information

Instructor Title: Assistant Professor

Instructor Professional Qualifications:

Ph.D., Materials Science and Engineering, Youngstown State University

M.S., Industrial and Systems Engineering, Youngstown State university

B.Tech, Mechanical Engineering, KLCE

Instructor Office Location:
Moser 2420

Instructor Office Phone:
330.941.3466

Course Description

3723L. Manufacturing Processes Lab. This lab is an introduction to a variety of manufacturing processes. This course divided into formative, subtractive, and additive manufacturing concepts and practices through a series of introductory tutorial labs and a term-long design and fabrication project. Processes covered include CAD design, metallurgy, metrology, 3D printing, casting, forming, welding, and inspection. A selection of additional processes will be available should students upon availability. These include investment casting, injection molding, and destructive and non-destructive tests. Prereq.: MECH 1560. Prereq. or Coreq.: ISEN 3723 or MFG 3723. 1 s.h.

Course Readings

Group	Title	Author	ISBN
	No readings		

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
8/24	CAD with Siemens NX	
8/31	CAD with Siemens NX	
9/7	CAD with Siemens NX	
9/14	Additive manufacturing- Polymers	Report 1 due
9/21	Additive manufacturing- Polymers	
9/28	Additive manufacturing- Ceramics	Report 2 due
10/5	Additive manufacturing- Ceramics	
10/12	Additive manufacturing- Metals	Report 3 due
10/19	CAM with Siemens NX	
10/26	CAM with Siemens NX	

11/2	Machining	Report 4 due
11/9	Machining	
11/16	Metallurgy	Report 5 due
11/23	Casting	
11/30	Casting and inspection	Report 6 due
12/7	Welding and inspection	Report 7 due

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.