

ISEN 3723 - Manufacturing Processes

Fall 2026 Syllabus, Section 01, CRN 43562,

Credit hours: 3

Instructor

Allison Rea

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Public Instructor Information

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Course Description

3723. Manufacturing Processes. Introduction to properties and uses of engineering materials. Introduction to mechanical testing methods, metrology, tolerances, testing and inspection; semi-finished product manufacturing; macro-processing (forming, casting, powder metallurgy, metal working, composite fabrication); joining; nontraditional manufacturing processes; and surface processing. Prereq.: MATH 1572, MECH 1560. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Fundamentals of Modern Manufacturing: Materials, Processes, and Systems 6th Edition		

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

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Tue	8/25		Introduction to Manufacturing	
Thu	8/27		Blueprint Reading	
Tue	9/1		Blueprint Reading	Intro to Manufacturing Homework
Thu	9/3		GD&T	
Tue	9/8		GD&T	Blueprint reading homework
Thu	9/10		Dimensional Measurement	GD&T Homework
Tue	9/15		Material Properties	Dimensional Measurement Homework
Thu	9/17		Engineering Materials	
Tue	9/22		Engineering Materials/Review	Material Properties Homework
Thu	9/24		Test 1	
Tue	9/29		Solidification of metal casting	Engineering material Homework
Thu	10/1		Solidification of metal casting	
Tue	10/6		Solidification of plastics	Solidification of metal casting Homework
Thu	10/8		Solidification of plastics	
Tue	10/13		Powdered Metallurgy	Solidification of plastic Homework
Thu	10/15		Powdered Metallurgy	
Tue	10/20		Test 2	Powdered Metallurgy Homework
Thu	10/22		Metal Forming	



Tue	10/27	Sheet Forming	
Thu	10/29	Sheet Forming	Metal Forming Homework
Tue	11/3	Machining	
Thu	11/5	Machining	Sheet Forming Homework
Tue	11/10	Machining	
Thu	11/12	Machining	
Tue	11/17	Grinding	Machining Homework
Thu	11/19	Nontraditional Machining	
Tue	11/24	Nontraditional Machining	Grinding Homework
Thu	11/26	No Class	
Tue	12/1	Heat Treatment	Paper Due
Thu	12/3	Heat Treatment/Review	Extra Credit Due
Tue	12/8	Final	
Thu	12/10	No Class	

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