



H-Form ISE 204

Course Information:	
Code and Title:	ISE 204 Materials Science and Engineering
Prerequisites:	CHEM 103T + PHYS 103
Co requisite (if any)	-
Credit Hours: 3	Lecture Hrs. (30), Tutorial Hrs. (15), Lab (30), Total Credits (75)
College/ Department:	College of Engineering/Industrial and Systems Engineering

Course Description:
The course covers the exploration of engineering materials, delving into their properties and processing parameters. It encompasses an in-depth understanding of material compositions and structures, with a specific focus on various categories such as ferrous and non-ferrous alloys, ceramics, and composites.

Course Objectives:
This course is intended to cover theory and basic understanding of materials, their structures, properties and applications by introducing the fundamental concepts of material science and engineering. The course introduces structure- properties-processing-performance relationships of materials used in mechanical components.

Course Learning Outcomes		
		PLO
Knowledge Understanding		
1.1	Define different types, structures and production of materials	K1
1.2	Match Material engineering science with mathematics and basic sciences	K2
Skills		
2.1	Formulate the laws to predict mechanical properties of materials	S1
2.2	Analyze structure of materials.	S1
2.3	Conduct appropriate experimentation of materials' preparation and characterization.	S2
2.4	Develop Material engineering interpretation to draw conclusion on materials properties	S4
Values		
3.1	Participate effectively in a team to implement experiments by applying lessons of materials science	V1

Textbook:			
Title:	Fundamental of Materials Science and Engineering,		
Author(s):	William D. Callister		
Publisher:	John Wiley & Sons	Year and Edition:	2001
Other Useful Resources:			