

Flow up of implementation celli pass play

Course Instructor	Abdul Jabbar S. Jomah				
E-mail	<u>Emil: abdaljabar.saad@uodiyala.edu.iq</u>				
Title	Phase transformation				
Course Coordinator	Annual				
Course Objective	a) Establish phase transformation b) Collect rate data free of transport limitations. c) Correlate rate data by mathematical equation or otherwise. d) Formulate suitable models for phase transformation e) Account for no ideality of phase transformation and for the effect of physical transport processes. f) Select phase transformation size and operating conditions. g) Specify key phase transformation elements. h) Specify auxiliary equipment. i) Specify methods of phase transformation. j) Specify start-up and shut-down procedures.				
Course Description	Principle and theory of phase transformation ,Principle properties of phase transformation, Thermodynamics & Kinetics, Diffusion, Interfaces in Materials ,Solidification , Diffusional Transformations , Diffusion less Transformations, Massive Transformation , Characteristics of martensitic transformation , Driving force for martensitic transformation , Recovery, Recrystallization & Grain Growth Heterogeneous Nucleation, Homogeneous Nucleation. Pre-martensite Phenomena.				
Textbook	1- Phase Transformations in Metals and Alloys (This is the major reference for this course) D.A.Porter, K.E. Easterling, and M.Y. Sharif CRC Press , Taylor & Francis Group 2- Diffusion in solids Prof. Alok Paul , IISC Bangalore NPTEL Web course 3- Phase Transformations Prof. Anandh Subramaniam IIT Kanpu				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As (30%)	As (0%)	As (10%)	----	As (60%)
General Notes	Type here general notes regarding the course				

Republic of Iraq
The Ministry Of Higher Education
& Scientific Research



University: Diyala
College: Engineering
Department: Materials Engineering
Stage: Third
Lecturer name: Abdul jabbar saad
jomah
Qualification: pH-D metallurgical
Eng.
Place of work: materials Eng.
Dept.

Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1		Principle and theory of phase transformation		
2		Principle properties of phase transformation		
3		Thermodynamics & Kinetics		
4		Diffusion		
5		Interfaces in Materials		
6		Solidification		
7		Diffusional Transformations		
8		Diffusionless Transformations		
9		Recovery Recrystallization and Graingrowth		
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		Hardening of material		
11		Massive Transformation		
12		Characteristics of martensitic transformation		
13		Driving force for martensitic transformation		
14		Recovery, Recrystallization & Grain Growth		
15		Heterogenous Nucleation		
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INSTRUCTOR Signature:

Dean Signature: