Republic of Iraq

The Ministry Of Higher Education

& Scientific Research

بسم الله الرحمن الرحيم

University: Diyala

College: Engineering

Department: Materials Engineering

Stage: Third

Lecturer name: Abdul jabbar saad jomah

Qualification: pH-D metallurgical Eng.

Flow up of implementation celli pass play

Course Instructor	Abdul jabbar s. jomah
E-mail	Emil: abdaljabar.saad@uodiyala.edu.iq
Title	Heat treatment
Course Coordinator	Annual
Course Objective	a) Establish Heat treatment b) Collect rate data free of transport limitations. c) Correlate rate data by mathematical equation or otherwise. d) Formulate suitable models for Heat treatment e) Account for no ideality of Heat treatment and for the effect of physical transport processes. f) Select Heat treatment size and operating conditions. g) Specify key Heat treatment elements. h) Specify auxiliary equipment. i) Specify methods of Heat treatment. j) Specify start-up and shut-down procedures.
Course Description	Foundation of heat treatment, Principles of heat treatment of steel, Heat treatment processes for steel , Hardenability of steel, Quenching technology of steel, Surface hardening treatment of steel , Thermo chemical treatments of steels, Thermo mechanical treatment, Heat treatment of Cast irons, Heat treatment of selected steels, Heat treatment of nonferrous alloys, Heat treatment of Al, Heat treatment of Cu , Heat treatment of Zn , Heat treatment of Sn.
Textbook	1-Steel heat treatment : Metallurgy and Technologies Geroge E. Totten CRC Press , Taylor & Francis Group. 2- Heat Treatment : Principles and Techniques T.V.Rajan, C.P.Sharma and Ashok Sharma PHI Learning Private Limited . 3- Heat Treatment of Materials, Vijendra Singh Standard Publishers Distributors, Delhi

Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As (30%)	As (10%)	As (10%)	----	As (50%)

General Notes	Type here general notes regarding the course

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Place of work: materials Eng. Dept.

Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1		Foundation of heat treatment		
2		Principles of heat treatment of steel		
3		Heat treatment processes for steel		
4		Hardenability of steel		
5		Quenching technology of steel		
6		Surface hardening treatment of s		
7		Thermo chemical treatments of st		
8		Thermo mechanical treatment		

9		Heat treatment of Cast irons		
10		Heat treatment of selected steels		
11		Heat treatment of non ferrous alloys		
12		Heat treatment of Al		
13		Heat treatment of Cu		
14		Heat treatment of Zn		
15		Heat treatment of Sn		
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INSTRUCTOR Signature: **Dean Signature:**