

Republic of Iraq
The Ministry Of Higher Education
& Scientific Research



University: Diyala
College: Engineering
Department: Materials Engineering
Stage: Third
Lecturer name: Wassan S. Hussain
Qualification: Ass. Lect. materials
Eng.

Flow up of implementation celli pass play

Course Instructor	Wassan S. Hussain				
E-mail	wassansuheil@gmail.com				
Title	Polymers				
Course Coordinator	Annual				
Course Objective	a) Studying classification of polymer materials. b) Establish polymerization mechanism c) Studying Molecular structure of polymers, Polymer chain flexibility, Molecular motion. d) Studying Mechanical tests of polymer materials. e) Definition of phenomena of Polymer viscoelasticity. f) Select Free volume theory & Tg Crystallization. g) Specification of Glass, Rubber transition temperature.				
Course Description	Introduction to polymer science: Chain conformations in polymers, Rubber elasticity Polymer solutions, Amorphous state and glass transition Crystalline state, Molecular structure of polymers, Polymer chain flexibility, Molecular motion and Glass, Rubber transition temperature , Free volume theory & Tg Crystallization, Mechanical tests, Elastic Modulus, Creep and Stress relaxation, Polymer viscoelasticity and modeling.				
Textbook	<ul style="list-style-type: none"> Wiley, introduction to polymer science, 2006 Ajayan, P. M., Schadler, L. S., and Braun, P. V., "Nanocomposite Science and Technology", WILEY-VCH Verlag GmbH & Co. KGaA Publishing, ISBN: 3- 527-30359-6, Weinheim, (2003). Buzea, C., Ivan. I., Blandino P, and Robbie K., "Nanomaterials and Nanoparticles: Sources and Toxicity", Biointerphases; Journal for Biophysical Chemistry-Springer, Vol. 2, Issue 4, pp. (MR17 - MR172), (2007). Tarafdar, J.C. and Raliya, R., "The Nanotechnology", Published by Scientific Publisher (SP), India, (2012). Guozhong Cao, Nano structures and Nano materials: Synthesis, properties and applications - Imperial College press. 				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As (40%)	As (0%)	----	----	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: Wassan S. Hussain
Qualification: Ass. Lect. materials
Eng.

Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

INSTRUCTOR Signature:

Dean Signature: