Republic of Iraq
The Ministry of Higher Education & Scientific Research

University: Al-Muthanna
College: Science
Department: Physics
Stage: MSc.
Lecturer name: Ali S. Ali
Academic Status: Assist. Prof.
Qualification:
Place of work: Physics dept.

Teaching plan (Adv. Materials) for MSc for the semester form

week	Date	Topics Covered	Notes
1	**19/2/2019**	Adv. Materials (Semiconductors, Biomaterials, smart materials) Atomic structure	**Ch-1-**
2	**26/2/2019**	Atomic Packed factor, X-ray Diffraction and Braggs Law	**Ch-1-**
3	**5/3/2019**	Vacancies and self-interstitials, specification of composition	**Ch-1-**
4	**12/3/2019**	Diffusion, diffusion mechanisms	**Ch-2-**
5	**19/3/2019**	Ficks Laws(1st, 2nd)	**Ch-2-**
6	**26/3/2019**	Factors Diffusion, Diffusion in semiconductor	**Ch-2-**
7	**2/4/2019**	Polymers, Addition to polymers, types of polymerization, addition polymerization, condensation polymerization, copolymerization	**Ch-3-**
8	**9/4/2019**	Mechanism of polymers, mechanical behavior of polymers, degree of polymerization	**Ch-3-**
9	**16/4/2019**	Biomedical application(Chemical vapor deposition+plasma ECVD, Plasma polymerization)	**Ch-4-**
10	**23/4/2019**	Plasma polymerization, Atomic layer deposition, effect of structural modification on properties, polymers used as biomaterials	**Ch-4-**
11	**30/4/2019**	Radiation processing(energy deposition, escape of electron and hole into the aqueous phase	**Ch-5-**
12	**7/5/2019**	Kinetic and conditions of radiation induced polymerization	**Ch-5-**

13	**14/5/2019**	Plasmonic materials (plasmon polaritions)	**Ch-6-**
14	**21/5/2019**	Plasmon resonance frequency, intraction between electron and EM waves	**Ch-6-**
15	**28/5/2019**	Types of plasmonic materials, Application of plasmonic materials	**Ch-6-**

Instructor Signature: **Dean Signature:**