



AL IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
COLLEGE OF ENGINEERING
Department of Mechanical Engineering

Course Information

Course Code and Name:	ME412 Nanomaterials
Credit Hours:	3 (3 Lecture + 1 Tutorial)
Prerequisites:	ME216 Mechanics of Materials, ME363 Manufacturing Technology

Course Description

This course provides a comprehensive introduction to nanomaterials, synthesis/processing techniques used for nanomaterials and also the properties of nanomaterials.

Textbook

Title	Nanomaterials: Synthesis, Properties and Applications		
Authors	A.S Edelstein, R.C Cammaratra		
Publisher	CRC Press	Year and Edition	1998, 2 nd Edition

Course Contents

Introduction.
Formation of clusters and nanoparticles from a supersaturated vapor and selected properties.
Particle synthesis by chemical routes.
Synthesis of semiconductor nanoclusters
Formation of nanostructures by mechanical attrition
Artificially multilayered materials
Nanostructures of metals and ceramics
Properties of nanomaterials

Academic Coordinator	Signature
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Official Stamp

