MA 513- Nano Technology

Course Code:	MA-513
UTAA Credit (Theoretical-Laboratory hours/week):	3(3-0)
ECTS Credit:	6.0
Department:	Mechanical and Aeronautical Engineering
Language of Instruction:	English
Level of Study:	Graduate
Offered Semester:	Fall and Spring Semesters.

Course Objectives

Teaching the basic principles, production and analysis methods of nanotechnology

C**ourse Content**

What is Nanotechnology?, Importance of Nanotechnology, Nanomaterial Synthesis Methods: Arc Evaporation, Lithographic, Chemical Vapor Deposition, Electrodeposition, Sol Gel, Inverse Miscel / Micro Emission Method, RF Plasma. Nanomaterial Characterization Methods: Scanning Electron Microscope (SEM), Scanning Hall Device Microscope (SHPM), Magnetic Force Microscope (MFM), Scanning Tunneling Microscope (STM), Atomic Force Microscope (AFM), UV-VIS, Fourier transform infrared spectroscopy (FTIR), RAMAN, X-ray powder diffraction (XRD), Small angle X-ray scattering (SAXS)

Course Learning Outcomes

1-Have basic knowledge about nanotechnology