

## **(MT-603) Advanced Materials Science**

**Materials perspective:** Materials, types of materials, compound materials, semiconducting materials, smart materials, novel materials, nanostructure materials. Carbon nanotubes. Ceramics, piezoelectric ceramics, Composites. Polymers, novel polymers, Liquid crystals.

**Growth/Synthesis Techniques:** Low and high temperature methods, aqueous chemical method, sol-gel method, wet chemical method, Chemical bath deposition method, Chemical vapor deposition method.

**Characterization Techniques:** X-Ray Diffraction Techniques (XRD), Field emission Scanning Electron microscope (FESEM), High resolution Transmission electron microscopy (HRTEM), Microprobe Analyzer, Nano-indentation.