



COURSES are offered in the following areas:

Seminar series in materials sciences given by invited speakers from various areas of materials sciences

Basic courses in materials sciences

- a) General studies on materials (Physical chemistry of surfaces; Porous materials; Colloid chemistry and nanotechnology; Radiation chemistry; Chemistry of dyes; Chemistry of solid materials)
- b) Methods of materials testing (Spectrometry and microscopy; Advanced separation methods; Advanced mass spectrometry; Test methods for microelectronic materials and structures; Colours and colour measurement etc.)

Courses in specific areas of materials sciences

- c) Polymer materials and technologies (Polymer chemistry and physics; Natural and natural based polymers; Modification of cellulosic materials; Synthetic fibres and technical textiles; Fibres for paper industry; Anatomy and physics of wood and paper forming fibres; Photodegradation of wood and paper forming fibres; Interaction of printing materials with printed surfaces; Application of high energy irradiation for modification of natural polymers and plastics; Characterization of functional textiles and garments; Antimicrobial textiles; Polymers in micro technology etc.)
- d) Ceramic materials and technologies (Structure and rupture mechanism of ceramics; Mechanical properties of technical ceramics etc.)
- e) Metallic materials and technologies (Models for thermally activated transformation in alloys etc.)
- f) Micro- and nano-structured materials and technologies (Semiconductors; Band gap engineering – efficiency of solar cells; Self organizing low dimensional systems; Microcapsules in advanced technologies; Application of polymers in microtechnology; Elements and compounds in micro size gas sensors etc.)
- g) Composites
- h) Environmental issues of materials sciences technologies (Green printing technologies), reuse of plastic waste).

