



Short term training courses in Nanotechnology and Nanobiotechnology

These special training courses have been designed to improve knowledge and skills of all learners in all fields of science and engineering as well as biological sciences. The training courses can be designed for bespoke need of companies, industries and educational institutes. The courses can be tailored to the corresponding institution's requirements. General courses are also designed for continuing professional development (CPD) packages for small groups on Nanotechnology. These training courses are developed and being conducted with the motive of improving knowledge of the learners to develop their skills. The modules are designed as short term training course for three groups of trainees:

1. Introductory (people with little or no background in the field, e.g. GCSE students, Lab technicians, non-technical staff etc)
2. Intermediate (People with some background, e.g., engineers, teachers, managers, non-scientific technical staff etc)
3. Advanced (People with good scientific background but need to develop their skills in the advanced levels, e.g., research scientists, R&D developers, PhD & MSc students, lab managers etc.

This course is aimed at providing exposure in synthesis, characterisation and applications aspects of nanomaterials, nanobiomaterials, surfaces modifications and their applications in various industrial sectors. Learners can explore various applications of nanotechnology in frontier fields and gain knowledge about different instruments or equipment involved in nanotechnology and research fields through the course.

Modules in brief:

1. Introductory:
 - a. Theory: Main concepts, Synthesis and preparation, Characterisation techniques, Applications, Health and Safety issues.
 - b. Practical: Demonstrations on preparation & properties of nanomaterials, simple characterisation techniques, some application examples.
2. Intermediate:
 - a. Theory: Properties of nanomaterials (Physical and chemical), various synthetic procedures, surface modifications and properties, characterisation techniques, surface manipulations, examples in applications.
 - b. Practical: experiments on synthesis of nanoparticles and nanomaterials, surface modifications, characterisation techniques, safe handling and safe procedures, hands on applied nanomaterials and nanobiomaterials.
3. Advanced:
 - a. Theory: Advanced synthetic and characterisation techniques, nanocoating and surface manipulation techniques, Surface properties and examples in nanomedicine, nanoelectronics, energy, nanosensors, environment etc. IP protection, ethics and commercialising of nanomaterials. Case studies according to the trainees need.
 - b. Practical: Nanocatalysts and electrocatalysts, various techniques of surface manipulation, advanced characterisation techniques, Synthesis of various types of nanomaterials, additional studies on various nanomaterials and modified surfaces.

Each module is for two months duration with 48 hours in total from which 32 hours theory and 16 hours practical. The costs will vary based on the number of trainees, background and requirements. Please enquire about our training courses.