

DMX6303 Nano Technology

Level	6
Course Code	DMX6303
Course Title	Nano Technology
Credit value	3
Core/Optional	Optional
Course Aim/s	Aim of this course is to introduce the subject of nanotechnology; the underlying science, historical evolution, current status, and future outlook.
Course Learning Outcomes (CLO):	<p>At the completion of this course student will be able to</p> <p>CLO1: Describe the basic facts behind nanotechnology as a doorway to modern engineering world and identify the nano in nature.</p> <p>CLO2: Compare the properties and behaviour of nano-materials with bulk materials and identify the principles behind them.</p> <p>CLO3: Explain the fundamentals and applications of quantum theory</p> <p>CLO4: Describe the techno-economic potential of nanotechnology and synthesis of nanomaterials.</p> <p>CLO5: Analyze the nanolithography techniques and applications based on different industries related to nano materials.</p> <p>CLO6: Explain the tools and processes to characterize nano structured materials.</p> <p>CLO7: Describe the properties of nano structured materials with high application potential.</p> <p>CLO8: Explain the possible health and environmental consequences associated with nanotechnology and identify the ways to minimize them.</p>
Content	<p>Outline Syllabus:</p> <p>Unit 1: Introduction Unit 2: Unique Properties of Nanomaterials Unit 3: Quantum Theory Unit 4 : Synthesis Routes Unit 5 : Applications of Nanomaterials Unit 5 : Tools to Characterize Nanomaterials Unit 6 : Nanostructured Materials with High Application Potential Unit 7 : Concerns and Challenges of Nanotechnology</p> <p>Case Study:</p> <p>Provide a comprehensive literature review on a specific selected topic</p>