Achhruram Memorial College

JHALDA, PURULIA, WEST BENGAL, INDIA, PIN: 723 202

Affiliated to Sidho-Kanho-Birsha University, Purulia

Department of Physics

Certificate Course on Introduction to Nanoscience and Nanotechnology

Date: 29.08.2024

Notice

We would like to inform you that the Department of Physics at Achhruram Memorial College will be offering a Certificate Course as mentioned above. The course is scheduled to run from **15th September 2024** to **20th December 2024**.

If you are interested, we kindly ask you to reach out to the relevant teacher of the department or the course coordinator for additional information regarding course duration, schedule, modules, and enrolment details.

29.08.24
Course Coordinator

29.08.24
HOD, Dept. of Physics

29/08/24
Principal

Head of the Dept. of Physics
Achhruram Memorial College
P.O.-Jhalda, Dist.-Purulia

PRINCIPAL
ACHHRURAM MEMORIAL COLLEGE
JHALDA, PURULIA
WEST BENGAL

Achhruram Memorial College

Jhalda, Purulia, West Bengal

Certificate Course

Introduction to Nanoscience and Nanotechnology

Course objective: This course is designed to understand the fundamental principles of nanoscience and the scale at which it operates.

Expected outcomes: This add-on course will help students to develop their knowledge and skills on nanomaterials.

Who can participate: Any student with basic knowledge in physics and chemistry.

Duration: 34 hours

Course Coordinator: Mr. Rabin Majhi

Department of Physics

* For more information, please contact the course coordinator.

Course Content

Module 1: Introduction of nanoscale, definition and historical background of nanoscience, and importance and applications in various fields **(6 hours)**

Module 2: Basic discussion about fundamentals of Nanomaterials, classification and properties of nanomaterials, and quantum effects at the nanoscale **(8 hours)**

Module 3: Synthesis and Fabrication Techniques: Top-down vs. bottom-up approaches. **(6 hours)**

Module 4: Characterization of nano-materials, structural characterization: XRD, SEM, TEM, and optical and electrical properties. **(8 hours)**

Module 5: Future Trends and Applications of nanoscience and Nanotechnology: In medicine: drug delivery systems, imaging, diagnostics, In electronics: transistors, sensors, quantum dots, In energy: solar cells, batteries, fuel cells **(6 hours)**