About Short Term Course

This course focuses upon design, synthesis, characterization, and application of Advanced Materials and Emerging Devices. It highlights the integration of these materials into next-generation devices for energy conversion and storage, sensing technologies, and biomedical uses. The theme underscores the multidisciplinary nature of materials science, bridging physics, chemistry, engineering, and nanotechnology to address for pressing global challenges in sustainable energy, healthcare, and smart sensing.

Key Topics

- Advance Materials
- Material Design and Characterization
- Emerging Devices
- Energy Applications
- Sensing Technologies
- Biosensing & Biomedical Applications

Communication Desk

Dr. Suresh Kumar Sharma Mobile: 7007622403, Email: <u>sureshphy@hbtu.ac.in</u>

Mr. Divyanshu Mishra Mobile: 7571930909, Email:<u>230334001@hbtu.ac.in</u>

Address: Department of Physics, HBTU, Kanpur 208002 (U.P.)

Chief Patron

Prof. Samsher Hon'ble Vice Chancellor H.B.T.U. Kanpur

Patron

Prof. Dipteek Parmar Pro-Vice Chancellor, HBTU, Kanpur

ORGANIZING COMMITTEE

Chairpersons

Prof. Manoj Kumar

Dean, School of Basic and Applied Science& Head, Department of Physics H.B.T.U. Kanpur

Prof. Sudhir Kumar Sharma

Department of Physics H.B.T.U. Kanpur

Conveners

Dr. Divya Somvanshi Assistant Professor Department of Physics H.B.T.U. Kanpur Dr. Abhishek Kr. Gupta Associate Professor Department of Physics

H.B.T.U. Kanpur







One week Online Short Term Course In

Advanced Materials and Emerging Devices for Energy, Sensing and Biomedical Applications [AMED -2025]

26-30 May 2025

Organized by Department of Physics in Association with Institute Innovation Council (IIC) Cell H.B.T.U., Kanpur – 208002 (U.P.)

About HBTU, Kanpur

Harcourt Butler Technical University (Formerly Harcourt Butler Technological Institute, Kanpur) has always been a paragon and a source of inspiration in the field of science and technology since the year 1921. Now, as per Act No. 11 of 2016 by the government of Uttar Pradesh it is upgraded to University, i.e., Harcourt Butler Technical University, Kanpur (HBTU, Kanpur). The University has been established with a view for making it a leading Residential University w.e.f 01.09.2016 to become a "Centre of Excellence" with focus on Research and Development and Incubation in the field of Engineering. Technology, Basic & Applied Sciences, Humanities, Social Science & Management and other professional courses. HBTU, Kanpur aims to promote studies, research & innovation in engineering areas of higher education, to enhance skill development through continuing education programme and to achieve excellence in higher technical education.

About Department of Physics

The Department of Physics, HBTU Kanpur has a very rich history of research and innovation, it is one of the oldest departments of the University, which is running since 1958. The department is actively engage in conducting research in the areas of Condensed Matter Physics with specialization in Nano Materials, Nano-Ionics, Energy Storage Materials and Devices, Optoelectronic Devices, 2D Materials, and Thin Film Technology. It offers foundational physics education along with courses for **B.Tech.** and **M.Sc.** Physics specialized programs. Over 35 years, it has graduated more than 50 Ph.D. students, published over 500 research papers in journals of national/international repute. Many of Students are serving in India as well as abroad as a Faculty/Scientist at senior level positions. The department secures numerous funded projects and emphasizes rigorous teaching, student support, and a collaborative environment.

RESOURCE PERSONS are from IITs, NITs, CSIRs, Central & Technical Universities, as well as from National and International institutions, industry, and research organizations, will deliver these lectures.

Note: There will be no participation fees.

WHO CAN ATTEND?

Academicians, Faculty Members, Engineers, Industry Professionals, Research Scholars, and Postgraduate and Undergraduate Students from Physics, Chemistry, Material Science, Nanoscience, Electronics, Environmental, Mechanical, and Chemical Engineering are invited to participate in this one-week online shortterm course.

E-Certificate will be issued to all those participants who attend regularly all sessions.

Learning Outcomes

Participants will:

- Gain fundamental understanding of Advanced Materials and Emerging Devices for energy, sensing, and biomedical applications.
- Develop the ability to analyze, design, and optimize materials for specific applications in energy storage, sensing technologies, and biomedical devices.
- Understand current challenges, innovative approaches, and future directions in the application of advanced materials for sustainable energy solutions, sensing technologies, and biomedical innovations.

REGISTRATION FORM Advanced Materials and Emerging Devices for Energy, Sensing & Biomedical Applications (AMED-2025)

26-30 May 2025

Full Name	
Designation	
Organization	
Department	
WhatsApp No	
E-mail	

REGISTRATION PROCESS

Registration Fees: Nil (No fees are applicable)

The registration of participants will be done only through the following link:

Google Link: https://forms.gle/gN2fCjiLasWjYAgEA



IMPORTANT DATES Course Duration: May 26, 2025 – May 30, 2025 Registration Starts: May 5, 2025 Registration Form Submission Deadline: May 21, 2025 Confirmation Email to Participants: May 22, 2025