



REFRESHER COURSE

FRONTIERS IN SUSTAINABLE SOLUTIONS: PIONEERING INNOVATION FOR A GREENER FUTURE



MMTTC
IIITDM Kancheepuram

Online

3rd to 15th March 2025.

ABOUT THE PROGRAMME:

There is a growing need and motivation to transition to renewable and sustainable energy as part of Sustainable Development Goals (SDG) laid by the United Nations. Our country is rapidly getting modernized and to meet the increasing energy demands and necessary infrastructure there is a growing impetus to improve technology in energy production and making better materials. In the mission for a sustainable tomorrow, this course emphasizes the importance of mitigating ecological impact through the adoption of sustainable materials, technologies, and processes. This course offers a comprehensive exploration of sustainability-driven innovations across various domains such as automotive, healthcare, transportation, energy, and urban development. Participants will gain insights into sustainable materials including renewables, principles of green chemistry and sustainable manufacturing. Cutting-edge advancements in battery technologies, powertrain efficiency, smart charging, and circular economy strategies for battery recycling will also be covered in this course. Sustainable healthcare technologies will be covered encompassing design of eco-friendly medical devices, digital health, lab-on-a-chip diagnostics, and biomedical waste management. The course delves into the sustainable energy economy, emphasizing renewable energy transitions, energy storage, and climate change mitigation. In the realm of robotics, attendees will be introduced to automation for waste reduction, robotic waste segregation, and onsite robotic 3D printing. This course will introduce biomimicry as a sustainable design approach, showcasing nature-inspired solutions for energy, materials, and product innovation. This course brings together participants from diverse backgrounds to foster interdisciplinary collaboration and encourage creative problem-solving to meet sustainable development goals.

WHO CAN ATTEND?

Faculty members working in universities and colleges that are included under Section 2(f) of the UGC Act. The teachers of colleges that do not yet come within the purview of Section 2(f), but have been affiliated to a university for at least three years, will be permitted to participate in the courses. This programme shall be taken into consideration for fulfillment of the requirements as laid down in Career Advancement Scheme as per UGC Regulations

TOPICS COVERED

- ❖ Material properties and characteristics
- ❖ Sustainable manufacturing
- ❖ Next-generation battery technologies for electric vehicles
- ❖ Sustainable healthcare design
- ❖ Sustainable product development
- ❖ Sustainable energy systems
- ❖ Robotics as a tool for sustainability
- ❖ Biomimicry for sustainability

REGISTRATION:

- ⇒ Register and login as a participant in mmc.ugc.ac.in
- ⇒ In the dashboard click on "Apply for Guru Dakshtha Refresher Course"
- ⇒ Select Apply for "Guru Dakshtha (Frontiers in Sustainable Solutions:Pioneering Innovation for a Greener Future)" and from the dropdown select the Programme Name and Center Name as "Indian Information of Information Technology, Design and Manufacturing, Kancheepuram (03/03/2023 -15/03/2025)"
- ⇒ Choose the title from the dropdown menu and enter the remaining personal information including year of joining, total years of experience etc.
- ⇒ Upload the NOC on Institute/College/University letterhead as per the format provided [here](#)
- ⇒ Click on Submit to complete the registration process.

Coordinators:

Dr. Raguraman Munusamy, Associate Professor

Dr. C.Karthik, Assistant Professor

Dr. G. Narendran, Assistant Professor

Dr. Jayachandra Bingi, Associate Professor

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Registration Fees:
NIL