AMITY INSTITUTE OF ENVIRONMENTAL SCIENCES

ORGANISES

One-Month Certificate Course

on

"Green Technology for Mitigating Climate Change"

29th August -29th September, 2023

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About the Certificate Course:

Climate change is one of the most pressing challenges of our time, requiring urgent action and innovative solutions. As the world faces the consequences of environmental degradation and increasing carbon emissions, the need for sustainable practices and green technologies has become paramount. This certificate course aims to equip participants with the knowledge and skills needed to actively contribute to climate change mitigation through the adoption and implementation of green technology solutions. By focusing on the intersection of environmental sustainability and technological advancements, we strive to empower individuals from various backgrounds to become agents of change in building a greener and more sustainable future.

In this context, Amity Institute of Environmental Sciences, Amity University Uttar Pradesh is taking this opportunity to take forward the initiatives that contribute to the nation in capacity building and organizing one-month certificate course on **"Green Technology for Mitigating Climate Change"** in association with **India Meteorological Department (IMD), New Delhi and Leads NexTach Pvt. Ltd**. that specializes in Climate risk assessment and management.

The course will cover a wide range of topics, providing a comprehensive understanding of green technologies and their applications in mitigating climate change. Participants will delve into renewable energy sources such as solar, wind, hydro, and biomass, exploring their potential as viable alternatives to fossil fuels. Energy efficiency and conservation measures will be examined, enabling participants to identify strategies for reducing energy consumption and implementing sustainable practices in various sectors. In addition, the course will address sustainable transportation systems, green infrastructure development, waste management, and emerging technologies like energy storage and smart grids. By examining real-world case studies and engaging in practical exercises, participants will gain valuable insights into the successful implementation of green technology solutions in diverse settings.

The course will be facilitated by industry experts, academics, and practitioners with extensive experience in the field of green technology and climate change mitigation. They will share their knowledge, expertise, and best practices, fostering interactive discussions and providing participants with valuable insights into the challenges and opportunities associated with sustainable practices. We encourage individuals from all backgrounds, including students, professionals, policymakers, and environmental enthusiasts, to join us in this transformative learning experience. Whether you seek to expand your knowledge, enhance your career prospects, or contribute to a greener future, this certificate course will equip you with the necessary tools and understanding to make a meaningful

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Objective:

The primary objective of this certificate course is to provide participants with a comprehensive understanding of green technologies and their role in mitigating climate change. By the end of the course, participants will possess the knowledge and skills required to actively contribute to climate change mitigation efforts through the implementation of green technology solutions. The course is to provide an opportunity for academicians, researchers, practitioners, policymakers, and research scholars to undergo training, share and discuss ideas and practices across a range of empirical, theoretical, and applied approaches in Green Technology and Climate Change modeling for environment sustainability. This certificate course aims to provide a premier interdisciplinary platform for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered, and solutions adopted in the fields of green science and climate change mitigation. The course will discuss the unprecedented challenges of environmental systems that can be resolved with climate modeling.

Course Structure and Content:

The one-month certificate course will cover the following topics:

Module 1: Introduction to Climate Change and Green Technology

• Understanding the science of climate change and its impacts

• Introduction to green technology and its significance in mitigating climate change

• Policy frameworks and international agreements related to climate change and green technology

Module 2: Renewable Energy and Its Efficiency

• Solar energy: Photovoltaics, solar thermal systems, and their applications

• Wind energy: Turbines, wind farms, and integration into the power grid

• Hydroelectric power: Dams, run-of-river systems, and tidal power

• Biomass energy: Biofuels, anaerobic digestion, and biomass power plants

• Transportation: Electric and hybrid vehicles, efficient public transit.

Module 3: Waste Management & Circular Economy

- Recycling and composting: Techniques, benefits, and challenges.
- Waste-to-energy technologies.
- Upcycling: Transforming waste into valuable products.
- Circular economy principles: Redesign, reduce, reuse, recycle.
- Plastic alternatives and biodegradable materials

Module 4: Sustainable Agriculture and Green Infrastructure

- Green buildings and sustainable infrastructure development
- Waste management and recycling: Circular economy concepts
- Precision farming: IoT in agriculture, drones for monitoring.
- Agroforestry and Organic farming practices.
- Reforestation and afforestation as carbon sinks.

Module 5: Climate Modelling and Projections

- Introduction to Climate Modelling & Components of Climate Models
- Model Evaluation and Validation
- Climate Projections and Scenarios
- Applications of Climate Projections

Module 6: Innovative Green Technologies & The Future

- Carbon capture and storage (CCS) and carbon capture and utilization (CCU).
- Ocean cleanup technologies.
- Green nanotechnology.
- Green IT: Data centers, computing, and digital solutions for sustainability.
- The role of AI and machine learning in predicting and adapting to climate change.

Delivery Method:

The course will be delivered through a combination of lectures, case studies, hands-on workshops, group discussions, and site visits. We will invite subject matter experts, industry practitioners, and academia professionals to share their knowledge and experiences with the participants. Practical exercises and projects will allow participants to apply their learning to real-world scenarios.

Target Audience:

The certificate course is designed for individuals from various backgrounds, including students, professionals, educators, policymakers, and entrepreneurs. We encourage participants who are interested in sustainable development and want to play an active role in mitigating climate change through green technology solutions to enroll in the course.

Certification:

Upon successful completion of the course, participants will be awarded a certificate of achievement, recognizing their commitment to advancing green technology for climate change mitigation.

Logistics and Timeline:

We propose conducting the one-month certificate course on 29th August 2023 to 29th September, 2023. The course will consist of 6 sessions, with each session conducted for 4 hours and 3 hours each for the inaugural and valedictory session (total 30 hours).

Who Should Attend:

This course is primarily meant for:

• UG & PG Students

• Research Scholars

• Academicians

• Working Professionals

• Industry Experts

• Government organizations

• NGO's & Registered Societies/Trusts

At the end of the course, participants will receive a certificate of achievement, acknowledging their dedication and commitment to advancing green technology for climate change mitigation. This certification will not only validate your newly acquired skills and knowledge but also demonstrate your commitment to environmental stewardship and sustainable practices.

Registration Fee: For Amitians Rs.700 and Non-Amitians Rs. 1000

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