



M Sc (Renewable Energy) Programme

DEPARTMENT OF PHYSICS UNIVERSITY OF LUCKNOW (NEW CAMPUS), LUCKNOW

M Sc (Renewable Energy) Programme had started from 2007-08 academic year in the Department of Physics of the University of Lucknow as a self-financing programme at the New Campus of the University.

The Programme has been supported by the Ministry of New and Renewable Energy, Government of India, New Delhi by releasing one-time financial assistance to enhance the laboratories and library facilities. The facilities like classrooms, indoor and outdoor laboratories, library, etc. are available for the programme.

OBJECTIVES:

- To provide training of post-graduate level in the field of renewable energy, energy conservation and energy management to Science/Engineering/Technology graduates and to the sponsored Engineers/Technicians from the Government of India, State Governments, Public and Private Sector Organizations involved in the manufacturing and promotion of renewable energy and energy conservation systems and also to the candidates sponsored by NGOs.
- To supplement Government of India and State Governments' efforts to generate qualified manpower for popularization of renewable energy systems to match up the energy demand and supply and also for the implementation of the Jawaharlal Nehru National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Mission on Strategic Knowledge for Climate Change and National Action Plan on Climate Change.
- To provide training of post-graduate level in the field of renewable energy, so that the students after successfully completing the programme may take research work in development of renewable energy systems, which are technologically and economically viable.
- To contribute in the field of energy, renewable energy, energy conservation and energy management which have national, regional and global importance.



Indoor and outdoor laboratories facilities at the new campus of the University

COURSE CONTENTS:

M Sc in Renewable Energy is a four semester programme. Year 1, Semester I Modules include Energy and Environment, Combustion Technology, Heat Power and Electricity, Solar Thermal Energy Conversion, Solar Photovoltaic Energy Conversion and Energy Laboratory.

Year 1, Semester II Modules include Numerical Methods and Computational Techniques, Wind Energy Conversion, Bio-energy and Waste to Energy Conversion Systems, Energy Conservation and Management and Energy Laboratory.

Year 2, Semester III Modules include Small-Hydro and Other Renewable Energy Systems, Energy Storage Systems and Fuel Cells, Energy in Buildings, Energy Planning and Economics and Energy Field Visits/Industrial Training.

Year 2, Semester IV Modules include Renewable Energy Integration and Decentralized Generation Systems, Energy Modeling and Project Management, Professional Skills and Energy Project (including Seminar and Viva). In addition, an elective module is also offered during Semester IV.

PROJECTS:

The students have designed and fabricated innovative systems like solar-powered bicycle, rectangular-dish solar cooker with water heater, solar cooker with boosters, solar still, cabinet solar dryers, making of *gulab jal* using solar energy, solar-powered evaporative cooler, electric power generation using solar concentrator, hydro-electric turbines, steam turbine, proto-type windmill with different numbers of blades, proto-type biogas plant, biomass gasifier, demonstration of solar passive cooling techniques in a proto-type building and electrical energy conservation techniques in buildings.





Some energy systems designed and fabricated by the students

VISITS AND INDUSTRIAL TRAINING:

The students have also visited the Ministry of New and Renewable Energy's Solar Energy Centre at Gurgaon, The Energy and Resources Institute, New Delhi, Bharat Heavy Electricals Limited, Gurgaon, Central Electronics Limited, Ghaziabad, Barli Development Institute for Rural Women, Indore, School of Energy and Environment, Devi Ahilya University, Indore, Raja Ramana Centre for Advanced Technology, Indore, Dewas Wind Farms, Dewas, Indore, Biomass gasifiers installations at Gorakhpur, Kanpur Gaushala Society, etc. apart from industrial training in establishments at Bangalore, Kolkata, New Delhi, Patna, Dehradun, Haridwar, Indore, etc.



Visit to the Devi Ahilya University, Indore



Field visit to Dewas Wind Farms



Visit to the Barfi Development Institute for Rural Women



Visit to the Solar PV Installation at Gurgoan



Visit to Biomass gasifier installation at Gorakhpur



Visit to the Solar Energy Centre, Gurgoan



कानपुर गौशाला सोसाइटी



Visit to Community Size Biogas Plant



Visit to Kanpur Gaushala Society



Visit to Biogas Bottling Plant

Visit of students of M Sc Renewable Energy Programme

PARTICIPATION IN CONFERENCES/SEMINARS/TRAINING COURSES/COMPETITIONS:

The students are encouraged to participate in conferences/seminars/workshops/training courses related to renewable energy, energy conservation and management and also to participate in the competitions related to renewable energy and other related aspects of local/regional/national levels.



Students participating in conferences and prizes won by them

GROUP ACTIVITIES:

The students of M Sc Renewable Energy are assigned to take up group activities and community service in and around Lucknow for popularization of renewable energy and energy conservation systems. The students have fabricated an improved wood-stove for mid-day meals at a school in Tehtana village at Lucknow and mounted exhibitions at the Regional Science City, Lucknow, Nagar Nigam's drives for Gomti Cleaning, University's Convocation Functions, etc. The students also actively participate in functions like Rajiv Gandhi Akshay Urja Diwas, Energy Conservation Day, World Environment Day, etc.





Group activities, exhibitions and functions

VISITORS FROM OTHER INSTITUTIONS:

The students, faculty members, researchers and private sector personnel very often visit the renewable energy laboratories at the New Campus of the University of Lucknow.



Students visiting renewable energy laboratories at New Campus of the University

JOB OPPORTUNITIES:

The M Sc in Renewable Energy Programme of the University of Lucknow is designed to provide qualified scientific and technical manpower in the field of renewable energy, energy conservation and energy management. The Ministry of New and Renewable Energy, Government of India including its Regional Offices, the Bureau of Energy Efficiency, various State Energy Development Agencies, United Nations' programmes which involve renewable energy and energy efficiency, public and private sector organizations involved in R&D, manufacturing, demonstration and popularization of renewable energy and energy efficiency systems, Indian Renewable Energy Development Agency and other public and private sector funding agencies, Government Departments concerned with the rural development and implementation of the National Action Plan on Climate Change, NGOs and many others are the prospective employers where the students after successfully completing the programme may find placements. More than sixty percent of the pass-outs of the previous batches have already got suitable placements.

ELIGIBILITY REQUIREMENT:

The eligibility requirement for the admission in M Sc Renewable Energy Programme is B Sc with Physics or Electronics as one of the subjects or B E/B Tech. The admissions are merit-based.

NUMBER OF SEATS:

Thirty (out of which twenty five are for merit-based admission and five are for sponsored candidates).

DURATION:

Two Years (Four Semesters).

For details of admission in the programme - 2011-12 academic session and fees, etc, please visit www.lkouniv.ac.in

For further information please contact the Head, Department of Physics, Professor U D Misra, or Dr Usha Bajpai, Coordinator, M Sc (Renewable Energy) Programme, Department of Physics, University of Lucknow, Lucknow 226 007, Email: dr_ushabajpai@rediffmail.com , bajpai.usha@gmail.com , bajpai_usha@lkouniv.ac.in, Mobile No. +91-9335913885.



Green Initiatives of the University of Lucknow