TECHNOLOGIES FOR CLEAN AND RENEWABLE ENERGY PRODUCTION

PROF. P. MONDAL
Department of Chemical Engineering
IIT Roorkee

TYPE OF COURSE: Rerun | Elective | UG/PG
COURSE DURATION: 8 weeks (26 Jul'21 - 17 Sep'21)
EXAM DATE: 26 Sep 2021

INTENDED AUDIENCE: Any interested Students

COURSE OUTLINE:
The course deals with the production of energy from different fossil fuels through cleaner routes as well as from renewable resources. It is intended to help the young scientific professionals to keep their knowledge upgraded with the current thoughts and newer technology options along with their advances in the field of the utilization of different types of energy resources for cleaner energy production.

ABOUT INSTRUCTOR:
Dr. Prasenjit Mondal, is presently working as Associate Professor in the Department of Chemical Engineering, Indian Institute of Technology Roorkee, India. He joined the institute in 2009 as Assistant Professor. He has also worked as Process Engineer in industry for two years and as scientist in Centre for Scientific and Industrial Research, India for three years before joining IIT Roorkee. His area of research is Energy and Environmental Engineering. He has handled number of R & D projects sponsored by Industry, Govt. of India and International Agencies. He has published 1 book and more than 100 papers in international journals and conference proceedings. He is the recipient of NTSE scholarship, MHRD fellowship, Govt. of India.

COURSE PLAN:
Week 1: Introduction, Characterization of coal and conventional routes for energy production from coal
Week 2: Cleaner routes for energy production from coal
Week 3: Characterization of crude oil and conventional routes for crude oil utilization
Week 4: Cleaner routes for energy production form petroleum crude
Week 5: Cleaner energy production from gaseous fuels
Week 6: Solar and wind energy production
Week 7: Production of hydro and geothermal energy
Week 8: Energy production from biomass and wastes and energy conservation