

0906451 Renewable Energy II: Wind Energy (3-0-3)

Prerequisite: Fluid Mechanics I

An overview of energy sustainability and wind energy history. Characteristics of wind resources. Fundamentals of physical wind, basic meteorology of wind, extraction of energy from wind. Basic introduction to wind energy and conversion systems. Various types of wind energy, conversion systems, and aerodynamics; blade and tower structural loads, kinematics of blades and meteorology. Wind plant development, and environmental and ecological impact of wind energy plants.