



EGR 282: Wind Power Technology

This course is designed to provide the operational and electrical skills required for an entry level technical position in global wind industry. It will equip individuals with the knowledge and skills required for siting, assembling and installing of wind energy projects of different scales - from small commercial and municipal turbines to utility scale wind farms located offshore or land-based. Topics Include: Project Operations, Turbine Fundamentals, Cranes & Rigging, Fasteners & Torqueing, Shaft Alignment and Bonding, Grounding and Lightning Protection systems. Prerequisite(s): EGR 131 or EGR 151 required. EGR 171 and EGR 172 recommended. Three lecture hours and three laboratory hours per week. Instructional Support Fee applies.

Course Student Learning Outcomes

Upon successful completion of this course students will be able to: 1. Describe the balance of plant (BOP) requirements and expectations pertaining to wind turbine operation and describe the general siting and wind farm development process. 2. Identify the component, component location and describe the general function and purpose of the turbine components. 3. Identify and demonstrate the techniques and safe use of equipment associated with Cranes, Hoists, Rigging and Cribbing. 4. Demonstrate the safe use of various fasteners, torque & tension equipment including the difference between dry and wet torque. 5. Demonstrate knowledge of basic principles, methods and techniques of shaft alignment. 6. Demonstrate proper Bonding, Grounding and Lightning Protection techniques, theory, and significance of how a wind turbine detracts and dissipates lightning.

Credits: 4

Program: Engineering