



## EGR 283: Wind Power Operations and Maintenance

This course is designed to provide the operational and mechanical skills required for an entry level technical position in global wind industry. It will equip individuals with knowledge and skills required for operation and maintenance 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: Maintenance Operations, Cooling/Heating systems, PLCs & SCADA, Bearings, Gearboxes and Yaw Systems. Prerequisite(s): EGR 171 required. EGR 282 and EGR 131 or EGR 151 recommended. Three lecture 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. Demonstrate maintenance operations and define equipment requirements for wind power systems including reporting, inspection, monitoring and protection methods. 2. Demonstrate inspection, maintenance and operation of Cooling and Heating systems used in the wind power industry. 3. Demonstrate the basic functions of Programmable Logic Controllers (PLCs) & Supervisory Control and Data Acquisition (SCADA) Systems used in the wind power industry. 4. Analyze bearing specifications and demonstrate the associated installation, maintenance, inspection and replacement systems and processes. 5. Recognize and define gearbox types, functions and general operations including lubrication, maintenance and inspection. 6. Recognize and define Yaw control system components, function and maintenance requirements.

**Credits:** 4

**Program:** Engineering