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## SECTION HEADING

### ELWT 1100: Wind Energy Fundamentals

#### Description

Wind Energy Fundamentals introduces the student to turbine designs, types of development, current status of, and the evolution of current models and sizes offered by existing companies, the operational experience, track record, number of turbines in operation that will be evaluated, and discuss the economic, environmental, and political issues according with American Wind Energy Association (AWEA).

#### Credits

3

#### Topics to be Covered

1. Past and future of wind energy
2. Effects of terrain on wind
3. Types of wind energy turbines
4. Wind turbine layouts and issues facing wind energy
5. Wind reliability
6. Discuss systems of wind energy and how wind works with HWAT & VWAT
7. Identify wind turbine parts

#### Learning Outcomes

1. Examine how wind works in its reliability.
2. Explain the past and future of wind turbines.
3. Identify wind turbine parts and where they are located.
4. Illustrate the different turbine designs, types, and developments as well as their current status.
5. Discuss the evolution of current wind turbine models and sizes offered by existing companies.
6. Examine the operational track records, number of turbines in operation, and durability.
7. Explain the economic, environmental, and political issues associated with wind energy.
8. Identify safety issues related to the wind energy field.
9. Discuss OSHA's view on the wind energy industry.
10. Discuss what AWEA is about and how it helps the wind energy field.

#### Credit Details

Lecture: 3

Lab: 0

OJT: 0