

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. ELWT

COURSE NUMBER: 1101

NUMBER OF CREDITS: 2

Lecture: 2 Lab: 0 OJT 0

Course Title:

Introduction to Wind Energy

Catalog Description:

Introduction to Wind Energy discusses the economic, environmental and political issues in accordance with the OSHA, and other local and zoning codes. The course also identifies the technical rules of the National Electrical Code and explains the licensing laws, definitions, and requirements and calculations for electrical installations, grounding conductors, branch circuits, feeders, and services.

Prerequisites or Necessary Entry Skills/Knowledge:

None

FULFILLS MN TRANSFER CURRICULUM AREA(S)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered

Past and future of wind energy

Effects of terrain on wind

Issues facing wind energy with OSHA regulations

Wind reliability

National Fire Protection Association 70- National Electrical Code

License/appeals regulations

Student Learning Outcomes

Examine how wind works and its reliability
--

Explain the past and future of wind turbines
--

Discuss the evolution of current wind turbine models and sizes offered by existing companies
--

Explain the economic, environmental, and political issues associated with wind energy

Describe license, inspection, enforcement, and appeals regulations and procedures

Describe overcurrent protection requirements
--

Describe grounding and bonding requirements

Describe general and temporary wiring methods requirements
--

Determine conduit, raceway, wireway, and tray cable requirements
--

Determine conductor ampacity, de-rating, and sizing.
--

Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--

Revised Date: 1/1/2022