

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

**DEPT. ELWT**

**COURSE NUMBER: 1101**

**NUMBER OF CREDITS: 2**

**Lecture: 2 Lab: 0 OJT 0**

<b>Course Title:</b>
Introduction to Wind Energy

<b>Catalog Description:</b>
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.

<b>Prerequisites or Necessary Entry Skills/Knowledge:</b>
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:

<b>Topics to be Covered</b>
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"/>
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Revised Date: 1/1/2022