

Wind Energy Technology
Certificate in Applied Science
30 Semester Hours[^]

ONETonline.org SOC Code: 49-9081.00

The Wind Energy Technology (WTT) Certificate in Applied Science provides a technical education at the certificate level. This broad-based curriculum provides instruction and practical application of a variety of technical concepts and practices. The courses include industry recognized maintenance practices in electrical, pneumatic, hydraulic, and mechanical systems.

Successful completion of the WTT Certificate in Applied Science prepares graduates to enter the workforce at the technician level. They will be prepared to perform periodic maintenance on machinery and systems located, not only in the wind industry, but in any industry utilizing machinery and electrical control systems. Employment opportunities for graduates include the expanding wind industry located across the United States, and more importantly, many organizations within Eastern's service area. Sample job titles are:

- Wind turbine service technician
- Wind turbine manufacturing technician
- Wind potential technician (meteorological data collection)
- Wind turbine site development technician
- Wind turbine construction/installation technician
- Wind turbine commissioning technician (initial start-up and synchronization with the grid)
- Industrial maintenance technician

The components of the WTT curriculum are algebra and trigonometry based. Corequisite courses may be required in English and mathematics. Requirements will be determined by placement test scores.

Upon successful completion of the program the student will be able to:

- Demonstrate basic knowledge of electrical equipment and operation
- Demonstrate basic knowledge of mechanical equipment and operation
- Demonstrate basic knowledge of fluid power equipment and operation
- Demonstrate safety practices common to the wind industry
- Troubleshoot, repair and maintain electrical systems common to wind power generation
- Troubleshoot, repair and maintain distribution power systems common to wind power generation
- Troubleshoot, repair and maintain hydraulic controls used in the wind industry
- Use commonly available instruments to analyze and troubleshoot systems
- Use schematics, operating manuals and troubleshooting guides to troubleshoot equipment commonly used in the wind industry
- Demonstrate knowledge of climbing, rescue, and emergency medical techniques and procedures necessary for the wind industry
- Apply safety procedures in the industrial environment including those applicable to hand and power tools
- Demonstrate job hazard assessment and resolution to hazards
- Perform daily maintenance and repair tasks necessary in the wind industry
- Demonstrate effective communication and computation skills

Special Certificates:

- Students successfully completing WTT 110, Wind Safety and OSHA, will receive an OSHA Certificate of Completion for General Industry Safety (30-hour).

Program Implementation: Full-time evening (Students attending part-time should contact advisor for recommended course sequencing).

Recommended Course Sequence – Wind Energy Technology, Certificate in Applied Science

First Year—Fall Semester			First Year—Spring Semester				
Dept.		Course Title	Sem. Hrs.	Dept.		Course Title	Sem. Hrs.
ELM	121	<u>Fundamentals of Hydraulics and Pneumatics</u>	4	ELM	217	<u>Industrial Maintenance Fundamentals</u>	3
ENL	101 or 115	<u>English Composition I</u> or <u>Technical Communications</u>	3	MTH	117	<u>Math for Technicians</u>	4
WTT	110	<u>Wind Safety and OSHA</u>	4	WTT	150	<u>Industrial Motor Controls</u>	4
WTT	120	<u>DC/AC Circuits</u>	4	WTT	160	<u>Power Generation and Transmission</u>	4
Total Semester Hours			15	Total Semester Hours			15

Students enrolled in this program may be eligible for related Skill Set Certifications. Students should contact their academic program advisor or refer to the [Skill Set section in this catalog \(page 99\)](#) for additional information.

^Cost to Complete Program:

Tuition: \$4,290+

Room & Board: \$3,000+

Books/Supplies: \$1,200+

Personal: \$1,850+

Transportation: \$2,500+

Total: \$12,840+

+Amounts shown are estimated to show possible, not actual, expenses

Median loan debt upon completion: N/A

Financial Aid is available for those who qualify.

See Gainful Employment Disclosure ([Page 28](#)) for more information.

Students enrolling in Electromechanical (ELM) and Wind Technology (WTT) courses will be assessed a laboratory fee for classes having a laboratory component. This fee is used to replace expendable materials and to maintain and upgrade laboratory equipment. See advisor for details.

At the end of select courses, students will take a PMMI (The Association for Packaging and Processing Technologies) Certification Exam. The certification exam is not included in the grade for the course.