

Wind Energy Technology
Associate in Applied Science
60 Semester Hours^

ONETonline.org SOC Code: 49-9099.02

The Wind Energy Technology (WTT) program provides a technical education at the Associate in Applied Science 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; computer control; data acquisition; and periodic and predictive maintenance program usages.

Successful completion of the WTT program prepares graduates to enter the workforce with an AAS Degree in Wind Technology. 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 and mechanical equipment. 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 knowledge of electrical equipment and operation
- Demonstrate knowledge of mechanical equipment and operation
- Demonstrate 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 & 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
- Apply computers in troubleshooting, maintenance planning and report writing using application software relevant to the wind industry
- Demonstrate proficiency in wind turbine maintenance and repair
- Demonstrate knowledge of airfoil composite and repair
- Demonstrate proficiency in wind turbine troubleshooting and repair
- Communicate effectively and work collaboratively in a variety of wind related industrial settings
- Perform daily maintenance and repair tasks necessary in the wind industry
- Demonstrate global awareness and knowledge of human diversity

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 afternoon/evening (Students attending part-time should contact advisor for recommended course sequencing).

Recommended Course Sequence – Wind Energy Technology, Associate in Applied Science Degree

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

Second Year—Fall Semester				Second Year—Spring Semester			
Dept.		Course Title	Sem. Hrs.	Dept.		Course Title	Sem. Hrs.
CIS	114	Introduction to Computer Applications & Concepts	3	WTT	230	Supervisory Control and Data Acquisition	4
ELM	210	PLC Fundamentals	3	WTT	260	Wind Turbine Troubleshooting and Repair	4
ELM	218	Maintenance Applications	3	WTT or ELM	278 or 276	Wind Technology Internship II or Electromechanical Capstone	3
SSC	147	Understanding Human Diversity	3	Elective		Natural Science Elective	3
WTT	210	Wind Turbine Mechanical Systems	4				
Total Semester Hours			16	Total Semester Hours			14

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: \$8,580+

Room & Board: \$6,000+

Books/Supplies: \$2,400+

Personal: \$3,700+

Transportation: \$5,000+

Total: \$25,680+

+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.