

## Wind Energy Technology

Associate in Applied Science

60 Semester Hours^

ONETonline.org SOC Code: 49-9081

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 usage.

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 graduate 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 to 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 an advisor for recommended course sequencing)

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

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	English Composition I OR	3	MTH	117	Math for Technicians	4
ENL	115	Technical Communications	(3)	WTT	150	Industrial Motor Controls	4
WTT	110	Wind Safety and OSHA	4	WTT	160	Power Generation and Transmission	4
WTT	120	DC/AC Circuits	4				
<b>Total Semester Hours</b>			<b>15</b>	<b>Total Semester Hours</b>			<b>15</b>
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	278	Wind Technology Internship II OR	3
SSC	147	Understanding Human Diversity	3	WTT	276	Electromechanical Capstone	(3)
WTT	210	Wind Turbine Mechanical Systems	4	Elective		Natural Science Elective	3
<b>Total Semester Hours</b>			<b>16</b>	<b>Total Semester Hours</b>			<b>14</b>

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 Eastern’s 2019-2020 Catalog (page 101) for additional information.

^**Cost of Attendance is available at:** [www.easternwv.edu/documents/financial-aid/cost-attendance](http://www.easternwv.edu/documents/financial-aid/cost-attendance)

**Median loan debt upon completion:** N/A

**Financial Aid** is available for those who qualify  
See Gainful Employment Disclosure in Eastern’s  
2019-2020 Catalog (page 26) 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 may take a PMMI (The Association for Packaging and Processing Technologies) Certification exam. This certification exam is not included in the grad for the course.