

Wind Turbine Technology Certificate

Program Description

The purpose of the wind turbine program is to prepare individuals to work in the increasingly important field of wind energy. This program is designed to train technicians in electrical power transmission, industrial safety climbing, scheduled maintenance and general service. The program will focus on training technicians to work on utility-scale wind turbines which are designed to produce electricity to be sold to consumers.

Employment Information

With the decreasing cost of wind energy production and increase in demand for environmentally-friendly power sources, wind farms have popped up all over the nation. This evolving industry will create a great demand for wind turbine technicians. The wind turbine technology degree program will prepare individuals to work in this industry.

Technical Occupational Specialty

			32 Credit Hours	Date	Institution
<input type="checkbox"/>	WTT 1004	Introduction to Wind Energy	4		
<input type="checkbox"/>	WTT 1103	Print Reading	3		
<input type="checkbox"/>	WTT 1134	AC/DC Theory	4		
<input type="checkbox"/>	WTT 1213	Wind Turbine & Electro-Mechanical Equipment	3		
<input type="checkbox"/>	WTT 2113	Wind Turbine Operation & Maintenance	3		
<input type="checkbox"/>	WTT 2213	Wind Turbine Motors & Generators	3		
<input type="checkbox"/>	WTT 2313	Wind Turbine Hydraulic & Mechanical Systems	3		
<input type="checkbox"/>	WTT 2413	Wind Turbine Siting & Construction	3		
<input type="checkbox"/>	WTT 2533	Wind Turbine Diagnosis & Repair	3		
<input type="checkbox"/>	WTT 2543	SCADA and Networking	3		

Supported & Related Courses

			3 hours	Date	Institution
<input type="checkbox"/>	FPST 1313	Introduction to Occupational Safety	3		

Total to Graduate

35 Credit Hours

Degree Awarded

Certificate in Wind Turbine Technology

For More Information Contact:

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Student Name:	_____
CWID:	_____
Counselor:	_____
Catalog 2012-2013	

WIND TURBINE CERTIFICATE COURSE DESCRIPTIONS

WTT 1004 INTRODUCTION TO WIND ENERGY

This course will introduce the student to wind energy. It will cover the various types of wind turbines, manufacturing companies, maintenance and repair, and employment opportunities. Student will also receive instruction and certification from the OSHA 10 hour certificate. The climb safety and tower rescue training will be included as the laboratory component.

WTT 1103 PRINT READING

This course covers the electrical circuits and schematics encountered in the wind industry. This includes circuits of the entire wind turbine as well as schematics of each electronic component.

WTT 1134 AC/DC THEORY

Review of elementary principles of electricity, OHM's law, circuit solutions, magnetism, inductance and capacitance. This course also introduces transient analysis, network theorems, resonant circuits, filters, AC power, and computer aided circuit analysis techniques. Prerequisite :WTT 1004 & MATH 1513

WTT 1213 WIND TURBINE AND ELECTRO-MECHANICAL SYSTEMS

Course will introduce students to the various components of a wind turbine and how each component functions to convert wind energy into electrical energy and transmit it to the grid. Prerequisite: WTT 1004 &MATH 1513

WTT 2113 WIND TURBINE OPERATION & MAINTENANCE

In-depth study of the components, principles and processes involved in the generation of electrical power using wind energy. Prerequisite: WTT 1004 &MATH 1513

WTT 2213 WIND TURBINE MOTORS & GENERATORS

A study of the operation and maintenance of motors and generators, including an in-depth look at the common components and contrasting operating procedures. Prerequisite: WTT 1004 &MATH 1513

WTT 2313 WIND TURBINE HYDRAULICS AND MECHANICAL SYSTEMS

An introduction to operation and maintenance of the mechanical and hydraulic systems that control blade pitch, turbine speed and transfer the energy from the wind through a gearbox to the generator. Prerequisite: WTT 1004 &MATH 1513

WTT 2413 WIND TURBINE SITING & CONSTRUCTION

An introduction to the mapping of wind patterns that help assist in determining where wind turbines will be located and they can be best constructed, delivered and set up for operation. Prerequisite: WTT 1004 &MATH 1513

WTT 2533 WIND TURBINE DIAGNOSIS & REPAIR

The course will cover the theory and practice of installation, operation, maintenance, troubleshooting and repair of wind turbine electromechanical systems. Prerequisite: CIS 1103 or CIS 1113 & WTT 1004 & MATH 1513.

WTT 2543 WIND TURBINE SCADA AND NETWORKING

This course teaches the student about Supervisory Control and Data Acquisition (SCADA). Student will learn to access the different databases to troubleshoot wind turbines from remote locations. Prerequisites: WTT 1004 & MATH 1513