

**Eastern WV Community & Technical College  
Master Course Record**

<b>Course Prefix and Number:</b> WTT 160
<b>Course Title:</b> Power Generation and Transmission
<b>Recommended Transcript Title:</b> Power Generation and Transmission
<b>Date Approved/Revised:</b> 7/20/10; 7/18/13; 7/14/14; 12/15/14; 9/21/15; 11/6/17
<b>Credit Hours:</b> 4 <b>Contact hours per week (Based on 15 week term):</b> <b>Lecture:</b> 3 <b>Lab:</b> 3
<b>Prerequisite:</b> WTT 120 or permission from the instructor. <b>Corequisite:</b> <b>Pre/Corequisite:</b>
<b>Grading Mode:</b> Letter Grade
<b>Catalog Description:</b> This course is a study of the components and process of electrical power generation, control, and delivery systems for wind energy. This course will serve as the basis for an understanding of power generation and distribution. Students will learn how power is transported from the wind farm to homes and businesses. Troubleshooting techniques and procedures will be discussed and demonstrated. This course will cover working with very high voltage transmission equipment and safety procedures.
<b>Course Outcomes:</b> <ol style="list-style-type: none"> <li>1. Understand power and how power is generated</li> <li>2. Discuss various types of power sources for generation</li> <li>3. Understand single and three phase power systems</li> <li>4. Demonstrate use of a thermal camera in power system troubleshooting</li> <li>5. Demonstrate circuit theory and use of schematics to analyze circuits</li> <li>6. Discuss fusing and circuit protection equipment</li> </ol>
<b>Implementation Cycle:</b> Spring
<b>Role in College Curriculum: (Check all that apply)</b> <input type="checkbox"/> <b>General Education Core (Specify category)</b> <input type="checkbox"/> <b>Technical Core: Wind Energy Technology</b> <input type="checkbox"/> <b>Restricted Elective (Specify Program)</b> <input type="checkbox"/> <b>General Elective</b> <input type="checkbox"/> <b>Workforce</b> <input type="checkbox"/> <b>Other (Please specify)</b>
<b>Course Fee:</b> Yes
<b>Instructor's Qualifications:</b> Bachelor's Degree in engineering, related technical field, or industry recognized qualifications.
<b>Expanded Course Description:</b> Students will understand the theory and operation of wind generators and understand the link between generators, converters, and the electrical power grid. They will study underground transmission lines and substations. Students will be capable of inspecting electrical circuits and components and to troubleshoot systems for reliability. Students will also have the knowledge to obtain

PMMI (The Association for Packaging and Processing Technologies) certificates of completion and be registered in the PMMI National Database.

Prepared by: W. Malcolm, Dean of Career/Technical Studies 7/20/10; 11/18/13; 07/14/14; 12/05/14

Skip Landes, Faculty, 05/25/15

Eric Putze, Advanced Technology/Wind Energy Technology, 11/6/17

Approved by:

Robert Eagle 7-20-10 (SB-G); 11/18/13; 07-14-14; 09/21/15

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Dean, Academic Services

Date

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Date Prepared/Revised: 07/20/10; 11/18/13; 07/14/14; 12/05/14; 11/6/17

Date Course Approved by Curriculum Committee: 11/6/17

Date Course Approved by LOT: 07/20/10; 11/18/13; 07/14/14; 12/15/14; 09/21/15; 11/20/17