TADT 1315: Energy and Power Technology

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: *.*
Lab Hours/Week: *.*
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None

Survey of types and sources of energy. Addresses the transmission and application of energy and power systems in a variety of construction and industrial applications, including mechanical, fluid, and renewable technologies such as solar, wind and geothermal.

B. COURSE EFFECTIVE DATES:  08/25/2014 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Introduction to Energy, Power and Transportation Technologies.
2. Types of power systems (electrical, mechanical, & fluid).
3. Introduction to transportation vehicular systems (land, water, air, space)
4. Energy, power and transportation and effects on environment.
5. Nonrenewable, nuclear, renewable/ inexhaustible, and solar energy.

D. LEARNING OUTCOMES (General)

1. be able to discuss environmental impact of energy, power, transportation technologies
2. be able to identify and contrast nonrenewable sources of energy
3. be able to discuss and examine the history, power generation process and implications nuclear energy has on our society.
4. be able to identify and contrast renewable and inexhaustible energy sources.
5. be able to identify and explain sustainable and innovative technologies.
6. be able to complete calculations related to power generation.
7. be able to explain and illustrate use of simple machines.
8. be able to discuss and operate fluid power systems.
9. be able to demonstrate disassembly and re-assembly of an internal combustion engine.
10. be able to compare and contrast multiple transportation/vehicular systems.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted