

# Bemidji State University

## 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