Faculty is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. ELEC
COURSE NUMBER: 2265

NUMBER OF CREDITS: 3 (2 lec, 1 lab)

COURSE TITLE: Introduction to Alternative Energy

CATALOG DESCRIPTION: This course provides an introduction to traditional and alternative energy sources. This class will explore the basic principles of traditional energy with an emphasis on alternative energy. Students will develop a basic understanding of solar, bio, wind, geothermal and hydro energy sources.

AUDIENCE: Electrician Students

FULFILLS MN TRANSFER CURRICULUM AREA(S) *(Leave blank if not applicable)*
Area: by meeting the following competencies:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: None

LENGTH OF COURSE: One semester

THIS COURSE IS USUALLY OFFERED:
Every other year [] fall X spring [] summer [] undetermined []

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:
   a. Gain a basic understanding of traditional energy sources
   b. Learn basic principles of alternative energy sources
   c. Have a general understanding of the use of traditional and alternative energy sources in the production of electricity

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skill through:
   a. Reading
   b. Research
   c. Problem solving
3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Students will engage in interactive lec/lab activities to improve their oral and written communication skills.

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Interacting with others students in this class.

TOPICS TO BE COVERED:
   a. Traditional energy sources (Coal, Natural Gas)
   b. Passive solar
   c. Solar Photovoltaic
   d. Bio-energy
   e. Hydroelectricity
   f. Wind energy
   g. Geothermal energy

LIST OF EXPECTED COURSE OUTCOMES: Gain a basic understanding of the production electricity by using different sources of energy. Study the economic and environmental impact of each type of energy source.

LEARNING/TEACHING TECHNIQUES used in the course are:

- Collaborative Learning
- Problem Solving
- Student Presentations
- Interactive Lectures
- Creative Projects
- Individual Coaching
- Lecture
- Films/Videos/Slides
- Demonstrations
- Other (describe below)
- Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:

- Reading
- Tests
- Individual Projects
- Oral Presentations
- Worksheets
- Collaborative Projects
- Textbook Problems
- Papers
- Portfolio
- Group Problems
- Term Paper
- Other (describe below)

EXPECTED STUDENT LEARNING OUTCOMES:

a. Students will gain an understanding of how different sources of energy are used in the production of electricity.
b. Students will study the advantages and limitations of different energy sources.
c. Students will study stand-alone systems and utility interconnection.
d. Students will learn to identify major components in the production of electricity.
**Veteran Services:** Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or via your preferred Telecommunications Relay Service.

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4/14