DEPT. ELUT COURSE NO. 2100

NUMBER OF CREDITS: 2

COURSE TITLE Metering 1

CATALOG DESCRIPTION: This course covers single-phase metering principles, meter construction, component parts and installation and testing of single-phase electric watt-hour meters. This course also includes the use of a meter test bench, test standards and an electric counter.

AUDIENCE: This practical, hands on course can be grasped by anyone who has a knowledge of electricity and would like to obtain a better understanding of the installation, testing, and maintenance of single-phase watt-hour meters.

FULFILLS MN TRANSFER CURRICULUM AREA(S) *(Leave blank if not applicable)*

Area: by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: The student should have passed or in the process of completing Electric Circuit Fundamentals, ELCO 1100.

LENGTH OF COURSE 1 semester

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

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

1) ACADEMIC CONTENT: Math, Reading

2) THINKING SKILLS:

3) COMMUNICATIONS SKILLS: Must communicate well with others and communicate problems well that will arise in the field.

4) HUMAN DIVERSITY:
TOPICS TO BE COVERED: Learn about simple rules of safety and hazards involved with testing and installing electrical meters. Study and test single-phase watt-hour meters, both self-contained and instrument rated meters. What is an instrument transformer, what hazards are there and how do you work with them.

LIST OF EXPECTED COURSE OUTCOMES:
The student will:
1. List the advantages and limitations of using an electro magnet moving coil meter ac voltage, current, and watts.
2. Describe the construction and operation of single-phase watt-hour meters (both self-contained and instrument transformer rated).
3. Define the connection and formulas to be used to test the accuracy of a single-phase watt-hour meter.
4. Test, calibrate, and describe the test used in testing single-phase meters.
5. Describe the construction and use the meter test equipment.
6. Calculate the metered powered of a load connected to a watt-hour meter by the use of the formulas.
7. Describe and identify the equipment used in metering with instrument transformers.

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning  X Problem Solving
Student Presentations  X Interactive Lectures
X Creative Projects  X Individual Coaching
X Lecture  Films/Videos/Slides
X Demonstrations  Other (describe below)
X Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading  X Tests  X Individual Projects
Oral Presentations  X Worksheets  Collaborative Projects
X Textbook Problems  X Papers  Portfolio
X Group Problems  Term Paper
Other (describe below)

EXPECTED STUDENT LEARNING OUTCOMES:

The information in this course outline is subject to revision

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.

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 Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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