Faculty are 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 Collegewide Curriculum Committee.

DEPT. ELUT COURSE NO. 2126

NUMBER OF CREDITS: 3

COURSE TITLE Regulators and Capacitors

CATALOG DESCRIPTION: This course covers the methods used in producing a reliable power source by controlling voltage loss and power factor through the use of capacitors and/or regulators.

AUDIENCE: Persons that would like to major in Powerline and Electric Utility, as technicians or lineman and have a greater understanding of voltage control.

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: No Prerequisites

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: This course covers the methods used in producing a reliable power source by controlling voltage loss and power factor through the use of capacitors and/or regulators.
LIST OF EXPECTED COURSE OUTCOMES:
1. Explain the operation of a single-phase induction voltage regulator and a three-phase induction voltage regulator, including how these regulators maintain the delivery of a constant line voltage to a distribution point.
2. Identify the major components for the control of voltage regulation and describe their operation in regulating a constant voltage.
3. Describe the procedure and safety required in installing and removing regulators from service.
4. Describe the functions of a tap changing transformer and identify the difference between load tap changer and no-load tap changer.
5. Describe the purpose and reasons for using capacitors as a means for regulating lines.
6. Describe the difference and reasons for connecting capacitors in parallel or series.

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning  X Problem Solving
   Student Presentations  Interactive Lectures
X Creative Projects  X Individual Coaching
X Lecture  X Films/Videos/Slides
   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 student is expected to understand and fulfill the course 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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