HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE TITLE & NUMBER:  AC/DC Electrical Circuits and Calculations: ELM 1201
CREDITS:      5  (Lec 3/ Lab 2)
PREREQUISITES:  None

CATALOG DESCRIPTION:
AC/DC Electrical Circuits and Calculations covers the basics of electrical circuit construction, components, calculations, and analysis.

OUTLINE OF MAJOR CONTENT AREAS:

1. Electrical Safety
2. Introduction to the National Electrical Code
3. Ohm’s Law
4. Electrical Quantities
5. Circuit Components
   A. Sources of energy
   B. Circuit control
   C. Circuit protection
   D. Circuit conductors
   E. Circuit loads

COURSE GOALS/OBJECTIVES/OUTCOMES:

1. Students will explain the volt, ohm, ampere and watt.
2. Students will calculate Ohm’s Law.
3. Students will trace circuit paths.
4. Students will explain the NEC purpose.
5. Students will know how to reference the NEC.
6. Students will list the advantages of DC vs. AC.

HCC COMPETENCIES MET:
Working Productively and Cooperatively; Thinking Creatively and Critically; Valuing Self

STUDENT CONTRIBUTIONS:
The student is expected to devote the time necessary to become adept at calculating and analyzing the material and their application to troubleshooting and maintenance procedures.

**STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTOR.**

**SPECIAL INFORMATION:**
ELM 1201 requires students to maintain a minimum of 95% attendance. Attendance below 95% may be made up by completing a one credit make-up class. The one credit class will equal three days of attendance. This credit must be pre-approved by the course instructor. Three less than full days (tardy or leaving early) will equal one full day absence. Without 95% attendance and not taking the one credit make-up class will result in re-taking the course.

**AASC APPROVAL DATE:** November 15, 2017
**REVIEW DATE:** November 2022