MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

DEPT. ELEC **COURSE NUMBER: 1220**

NUMBER OF CREDITS: 4 **Lecture: 1 Lab: 3 OJT 0**

Course Title:
Conduit Installation

Catalog Description:
Conduit Installation describes the raceway types used to conceal wiring, learn to bend, install, support, calculate raceway size and number of wires permitted in a conduit, hand and hydraulic Benders are introduced, and identify fittings and other materials used in installing a Raceway system.

Prerequisites or Necessary Entry Skills/Knowledge:
None

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

☐Goal 1: Communication: By meeting the following competencies:
☐Goal 2: Critical Thinking: By meeting the following competencies:
☐Goal 3: Natural Sciences: By meeting the following competencies:
☐Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
☐Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
☐Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
☐Goal 7: Human Diversity: By meeting the following competencies:
☐Goal 8: Global Perspective: By meeting the following competencies:
☐Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
☐Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered
Installing and identifying of all the different types of raceway systems: EMT, PVC, IMC, Rigid, and fittings.
Installing and identifying of all the different types of flexible raceway systems: steel flex, seal tight, carflex PVC, MC and fittings.
Selecting the proper size raceway for the number of conductors installed.
Selecting the correct box size for conduit installation.
Calculating straight and angle pulls for box fill
Calculating Plan Dimensions.
Applying Conductor derating factors.

Calculating box fill with conductors.
Use of the *NEC* for all installations, selecting, and calculations

Student Learning Outcomes
Exhibit safe work practices
Apply the National Electrical Code (*NEC*)
Perform and the use of properly using power tools for conduit installation
Identify the different service types
Identify all drawings and symbols
Identify the layout of different conduit installations according to the *NEC*
Understand how to splice conductors properly
Identify and properly install EMT, PVC, IMC, and rigid fittings
Identify and properly install flexible fittings
Identify and properly install conduit bodies with covers
Install surface mounted raceway
Layout of all raceway systems

Is this course part of a transfer pathway: Yes ☐ No ☒
***If yes, please list the competencies below**

Revised Date: 1/1/2022