COURSE INFORMATION FORM

DISCIPLINE INTE

COURSE TITLE Industrial Electrical Print Reading

CR.HR 3  LECT HR. 3  LAB HR.  CLIN/INTERN HR.  CLOCK HR.

CATALOG DESCRIPTION

This course introduces the student to industrial prints. The student will become familiar with electrical schematics, wiring diagrams, one-line diagrams, PLC prints, and P&ID’s (Process & Instrumentation Diagrams). Upon completion of this class, the student will be able to demonstrate the ability to use these prints to maintain, troubleshoot and install electrical systems in the workplace. They will be able to determine safety hazards and proper procedures for guarding against those hazards.

PREREQUISITES

INTE 115

All prerequisites must have a grade of C or higher.

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:

1. Demonstrate the use of electrical schematics and wiring diagram for installation of systems.
2. Use electrical schematics for troubleshooting of electrical and PLC systems.
3. Use prints to determining electrical hazards in the workplace.
4. Explain the use of P&ID prints and how they are used to troubleshoot electrical/mechanical systems.
5. Explain the use of one-line diagrams in an industrial setting.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

The student will demonstrate:
1. The ability to demonstrate professional oral and written communication skills.
2. The ability to think critically and apply problem-solving skills.
3. The ability to exhibit competence in entry-level skills of technical profession in Industrial Technology.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

Written Exams: (1 -5)
Assignments: (1 - 5)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Safety
   A. Industrial safety
   B. Using prints to determine hazards in the workplace
      1. Electrical
      2. Safety
      3. Piping and pressure

II. Schematics
   A. Symbols
      1. Devices
      2. Ladder logic and flow
   B. Print layout
   C. Use in troubleshooting
   D. Circuit analysis

III. Wiring and PLC diagrams
   A. Use in installation of systems
   B. Use in troubleshooting systems

IV. One-line diagrams
   A. Symbols
   B. Logic Flow

V. P&ID – Process & Instrumentation Diagrams
   A. Symbols
   B. Print layouts
   C. Piping layouts