



MASTER COURSE OUTLINE

Prepared By: James Ayers

Date: May 2014

COURSE TITLE

Industrial Electrical Installation Techniques

GENERAL COURSE INFORMATION

Dept.: IST

Course Num: 113

(Formerly:)

CIP Code: 47.0302

Intent Code: 21

Program Code: 784

Credits: 5

Total Contact Hrs Per Qtr.: 44

Lecture Hrs: 33

Lab Hrs: 44

Other Hrs:

Distribution Designation:

COURSE DESCRIPTION (as it will appear in the catalog)

Fundamentals of raceway, wire and utilization equipment installations for plant safety, efficiency and long economic life.

PREREQUISITES

IST 107 or Instructor Permission

TEXTBOOK GUIDELINES

Appropriate textbook as determined by faculty (Example: *Ugly's Electrical Reference* by George V. Hart)

National Electrical Codebook, NFPA 70

Conduit Bending and Fabrication ATP publications

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.

1. Read electrical drawings
2. Verify materials used
3. Demonstrate proper methods & use of materials for each situation and or location
4. Explain the grounding of industrial systems

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

Week 1: Electrical drawings, Materials, Components and Wire, Conduit Systems, NEMA Classifications, NEC Article 90 and 110.

Week 2: Specific industrial electrical materials, Electricians Guide Conduit Book – Chapter 1 , Trig and conduit.

Week 3: Installation techniques, Arch Flash safety, Using trig for bending

Week 4: Offsets in conduit, Binder differences, Different techniques

Week 5 & 6: NEC material specifications, Special bending techniques

Week 7 & 8: Site construction practices and safety

Week 9 & 10: Electrical grounding within the industrial plant, Cad welding.

Week 11: Final

DEPARTMENTAL GUIDELINES *(optional)*

DIVISION CHAIR APPROVAL

DATE