



MASTER COURSE OUTLINE

Prepared By: Ken Naime/Steve Matern

Date: June 2014

COURSE TITLE

Electronics III – Industrial

GENERAL COURSE INFORMATION

Dept.: IST

Course Num: 223

(Formerly:)

CIP Code: 46.0302

Intent Code: 21

Program Code: 784

Credits: 5

Total Contact Hrs Per Qtr.: 77

Lecture Hrs: 33

Lab Hrs: 44

Other Hrs:

Distribution Designation:

COURSE DESCRIPTION (as it will appear in the catalog)

The course provides instruction and training in troubleshooting, testing and repairing industrial control devices. Electrical motor drives, instrumentation, and programmable controllers will be covered.

PREREQUISITES

IST 222 or Instructor Permission

TEXTBOOK GUIDELINES

Appropriate textbook as determined by faculty (Example: *Industrial Electronics*, by Humphries & Sheets)

COURSE LEARNING OUTCOMES

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

- 1) Demonstrate electrical safety practices required for electronics troubleshooting.
- 2) Evaluate electronic circuits for proper operation using oscilloscopes, and digital meters.
- 3) Explain basic principles of operation for solid state circuitry for instrumentation.
- 4) Test, troubleshoot, and repair industrial control devices.

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

1. Electrical safety and test equipment familiarity
2. Testing and maintenance procedures for instrumentation
3. Interface devices
4. Electrical motor drives
5. Elements of motor control
6. Programmable controllers
7. Open and closed loop systems testing

DEPARTMENTAL GUIDELINES (optional)

DIVISION CHAIR APPROVAL

DATE