

Minnesota State College Southeast

INDS 1635: Electrical Principles & Practices 2

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

The course will start out with a review of the fundamental concepts of electricity. Students will be introduced to basic electrical components and systems found in the industrial maintenance world. Switches, relays, electrical motors, indicators, basic test equipment and operation, troubleshooting techniques, wiring diagrams, and a review of electrical safety are most of the topics covered. (Prerequisites: none) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 03/02/2009 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Demonstrate electrical safety
2. Review electrical safety practices
3. Review voltage, amperes, and resistance relationship (Ohm's law)
4. Demonstrate use of electrical measuring devices and meters
5. Identify common building electrical components
6. Examine basic building electrical systems
7. Describe electrical circuits
8. Identify open and closed circuits
9. Describe control transformer uses
10. Identify disconnect and current limiting devices
11. Identify switching devices
12. Identify relay functions
13. Identify time delay relay functions
14. Identify power switching devices
15. Identify solenoid devices
16. Examine power distribution systems
17. Describe time/counter devices
18. Identify motor starter devices
19. Examine circuit loading and how to determine electrical loads
20. Examine common electrical maintenance practices
21. Demonstrate troubleshooting techniques
22. Read electrical blueprints and symbols
23. Examine programmable controllers

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted