

Minnesota State College Southeast

INDS 1618: Piping & Special Boilers License

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

The student will be provided with an introduction to piping, piping systems, and the many components that make piping systems function. This includes metal piping and threading, nonmetallic piping, tubing, hoses and basic fittings. The basic principles and fundamentals of steam boiler operations and the licenses needed to operate these systems will be covered. Upon completion of this course students will be qualified to test for the beginning Special Boiler Operators License. (Prerequisite: None) (3 credits: 3 lecture/0 lab)

B. COURSE EFFECTIVE DATES: 04/30/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Exhibit boiler safety
2. Exhibit safe practices
3. Exhibit quality work
4. Describe boiler inspection requirements
5. Describe ASME code requirements
6. Utilize Minnesota state steam engine and boiler laws
7. Describe boiler license limitations
8. Describe steam operation
9. Describe low water cut-off objectives
10. Understand basic hot water heating boiler controls
11. Identify steam trap types
12. Describe strainer operation
13. Describe filter operation
14. Identify valve types
15. Perform valve maintenance
16. List piping materials
17. List pipe joint types
18. Identify pipe threads
19. Perform pipe cutting
20. Perform pipe threading
21. Explain pipe hanger selection factors
22. Perform weld preparation procedures
23. Identify fitting types
24. List fitting functions
25. Describe non-metallic piping types
26. List plastic pipe types
27. Assemble plastic pipe
28. Describe plastic pipe
29. Perform tube soldering
30. Perform tube flaring
31. Perform tube bending

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted