

Minnesota State College Southeast

ELEC 1214: Electronic Fabrication Technology

A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

In this course students will study the proper techniques necessary for placement of components on PCB's, with emphasis on THM and SMT technologies. Proper use of standard and specialized tools and equipment will be demonstrated. Soldering techniques will be critiqued in accordance with IPC-A-610 and J-STD-001 soldering standards. (Prerequisite: None) (2 credits: 1 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 04/27/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Demonstrate proper hand-tool usage
2. Solder through hole components
3. Solder surface mount components
4. Identify electronic components

D. LEARNING OUTCOMES (General)

1. Demonstrate hand-tool usage techniques
2. Describe soldering equipment
3. Demonstrate soldering process
4. Differentiate wire terminals
5. Solder surface mount components
6. Identify electronic components
7. Interpret component labeling
8. Demonstrate electro-static damage (ESD) avoidance techniques
9. Describe printed circuit board (PCB) characteristics
10. Demonstrate PCB component installation process
11. Install axial/radial components
12. Install integrated circuits
13. Install static-sensitive electronic PCB component
14. Install surface-mount PCB component
15. Describe PCB component removal process
16. Remove PCB component
17. Remove surface-mount PCB component
18. Maintain PCB integrity
19. Demonstrate electrical safety

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted