

Passaic County Technical Institute

**Building Maintenance IV**  
Curriculum Guide  
January 2010

Developed by: Ron Franchino

## I. Course Description:

Building Maintenance is a four-year program, which will provide students with an understanding of and practical experience in the many aspects of the Building Maintenance field. The main emphasis will include the safe and proper use of tools and equipment in the study of carpentry, plumbing and the electrical trades. It will also include drywall, painting, masonry, concrete and tile setting. Activities in Green and Computer Numeric Control (CNC) technology are also part of the curriculum. The students will experience hands-on projects for each of the trades, including Construction Trades Activities (CTA). These activities are designed to give students specific tasks relevant to that particular trade with video reinforcement and written assessment for each of the CTA's. In addition, students will be able to discuss, identify and practice employability skills, organizational skills and customer service. Students will be able to identify employment opportunities including union and non-union labor as well as entrepreneurial options.

As in the three previous years students will be able to reinforce the skills and information learned. They will demonstrate skill and safety in the use of tools and equipment in the shop. They will also work in teams to complete specific projects using skills already learned, i.e. blue print reading, hands-on skills etc. Personal projects will also be assigned, with an emphasis on quality. They will be encouraged to develop a greater understanding of the role of employability skills in the classroom and the work world. In addition, CTA, CNC and Green technologies will be revisited. An introduction to and the study of SOCATS testing will be developed.

## II. Course Objectives/Outline

Students will be able to:

### A. Identify, Demonstrate, and Review

- a. Safety rules for shop (9.4.12.B.40, 42)
- b. Classroom Discipline (9.1.12.F.2)
- c. Employability, organizational and customer service skills (9.4.12.B.54-64)
- d. The safe use of hand tools (9.4.12.B.75)
- e. The safe use of power tools (9.4.12.B.75)
- f. The use of drawing and reading of blue prints (9.4.12B.74)
- g. Plumbing (9.4.12.B.37)
  1. Safety
  2. Layout a project
  3. Soldering
  4. Materials
- h. Electrical (9.4.12.B.37)
  1. Safety
  2. Basic understanding of a circuit
  3. Tools and equipment
- i. Carpentry (9.4.12.B.37)

1. Safety
2. Materials and fasteners
3. Framing walls and cabinet making

B. Complete (9.4.12.B(2).17)

- a. An all year project with deadlines to meet and the final project due by early May with possible submission to Craftsman Fair.
- b. Final evaluation of skills in the safe use of tools and equipment in all trades.
- c. Prepare a final resume and portfolio
- d. Team projects (kitchen cabinets)
- e. Study guide for SOCATS written exam
- f. A project incorporating the use of various trades in preparation for the SOCATS practical exam

### III. Proficiencies

Students will be able to:

1. Work cooperatively and safely with others
2. Maintain proper behavior in the classroom and shop
3. Be aware of career opportunities
4. Demonstrate safe and proper use of hand tools
5. Demonstrate safe and proper use of power tools
6. Apply good work habits
7. Understand and implement employability skills
8. Identify materials used in the trades
9. Demonstrate measuring skills
10. Practice basic shop math
11. Understand basic blue prints
12. Understand basic procedures for building a project
13. CTA Trainer, drywall
14. CTA Trainer, painting
15. CTA Trainer, masonry
16. CTA Trainer, concrete
17. CTA Trainer, green technology
18. Carpentry-framing/finish
19. CNC Technology
20. CTA Trainer, tile setting
21. CTA Trainer, electric
22. CTA Trainer, plumbing

### IV Evaluation

1. Classroom and shop participation
2. Classroom assignments

3. Notebook
4. Quizzes and tests
5. Personal projects
6. Team projects
7. CTA practical projects and written assessments

## **V. Textbooks and Instructional Materials**

“Facilities Maintenance” Thompson Delmar Learning,  
Copyright 2008

“Home Repair and Maintenance” Jack M. Landers,  
The Goodheart-Willcox Co., Copyright 1996

“Modern Carpentry” Willis Wagner/Howard Bud Smith,  
The Goodheart-Willcox Co., Copyright 2000

Taunton Press: Construction trades instructional DVD’s

Paxton Patterson: Building Skills (Construction Trades Activities)

## **VI. Teaching Strategies**

Various teaching methods will be used to meet the needs of each individual student.

1. Discussion
2. Lecture
3. Textbook/workbook
4. Video
5. Study guides/handouts
6. Demonstrations of techniques
7. Role playing
8. Researching
9. Quiz games
10. Note taking
11. Question and Answer
12. Hands-on work with close supervision
13. One-on-one work and discussion
14. Cooperative learning

## VII. Scope and Sequence Chart

I=Introduced D=Developed in Depth R=Reinforced

Skills To Be Learned	9	10	11	12
Understand and follow all safety rules	D	R	R	R
Understand and demonstrate proper behavior in classroom and shop	D	R	R	R
Identify Career Opportunities in the trade	I	DR	DR	R
Demonstrate the safe and proper use of hand tools	ID	DR	R	R
Demonstrate the safe and proper use of power tools (instructor supervision)	I	DR	DR	R
Demonstrate good work habits	D	DR	DR	R
Demonstrate an understanding of employability skills	D	DR	DR	R
Identify materials used in the various related trades	I	DR	DR	R
Understand basic shop math	ID	DR	R	R
Demonstrate good measuring skills	D	DR	R	R
Identify basic blue prints	I	DR	DR	R
Apply basic procedures for building a project	ID	DR	DR	R
CTA Trainer, Drywall	I	D	DR	R
CTA Trainer, Painting	I	D	DR	R
CTA Trainer, Tile setting		I	DR	R
CTA Trainer, Masonry	I	D	DR	R
CTA Trainer, Concrete	I	D	DR	R
CTA Trainer, Electrical		I	DR	R
CTA Trainer, Plumbing		I	DR	R
CTA Trainer, Green Technology	I	D	DR	R
Carpentry – framing/finish	I	D	DR	R
CNC Technology	I	D	DR	R

## BUILDING MAINTENANCE IV

### Student Handout

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#### Proficiencies

Students will be able to:

23. Work cooperatively and safely with others
24. Maintain proper behavior in the classroom and shop
25. Be aware of career opportunities
26. Demonstrate safe and proper use of hand tools
27. Demonstrate safe and proper use of power tools
28. Apply good work habits
29. Understand and implement employability skills
30. Identify materials used in the trades
31. Demonstrate measuring skills
32. Practice basic shop math
33. Understand basic blue prints
34. Understand basic procedures for building a project
35. CTA Trainer, drywall
36. CTA Trainer, painting
37. CTA Trainer, masonry
38. CTA Trainer, concrete
39. CTA Trainer, green technology
40. Carpentry-framing/finish
41. CNC Technology
42. CTA Trainer, tile setting
43. CTA Trainer, electric
44. CTA Trainer, plumbing

