

Passaic County Technical Institute

Building Maintenance III

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.

In building maintenance III students will be able to reinforce skills learned in the previous years. They will be encouraged to further improve these skills by review and more intense study. CTA's will be expanded to include all trades listed in the curriculum. They will be able to demonstrate an understanding of how the trades are related. They will also develop a greater understanding of blue print reading and basic trade related math skills. Employability skills will be reinforced in shop activities in preparation for employment. Also the introduction of resume writing and employment applications will be discussed. The students will continue to develop a strong emphasis on the safe and proper use of all the tools and equipment at their disposal.

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 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. Evaluation of skills in the safe use of tools and equipment in all trades.
- c. Resume project
- d. Job opportunity report
- e. Team project, involving service to the school (gift ideas, picture frames, cutting boards, stools with school brand)
- f. A project incorporating the use of various trades (carpentry, plumbing, electrical) similar to the practical part of exit exam.
- g. CTA projects and assessments and review of all related trades

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

BUILDING MAINTENANCE III

Student Handout

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