Passaic County Technical Institute

Building Maintenance I
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.

The first year is an exploratory course. Students will be able to identify nomenclature of tools and equipment in the various trades. An emphasis on the safe and proper use of tools will be the main priority. Students will be able to use power tools both portable and stationary with supervision from the instructor. Written assessments of the safe and proper use of all tools will be given. Basic blue print reading, architectural scale, basic math for the trades and measuring skills will also be part of the curriculum. The use of CTA's, CNC, green technologies will be introduced in the first year. The importance of employability skills will also be emphasized.

II. Course Objectives/Outline

Students will be able to:

A. Identify
   a. Safety rules for shop (9.4.12.B.40, 42)
   b. Classroom Discipline (9.1.12.F.2)
   c. Employability skills, customer service skills and organization skills (9.1.12.F.2)

B. Demonstrate (9.4.12.B.40, 74-75)
   a. The safe use of a variety of hand tools.
   b. The completions of carpentry projects using hand tools.
   c. Proficiency in the use of measuring devices.
   d. Understanding in the reading and drawing of blue prints.
   e. CTA training in drywall, painting, concrete, masonry
   f. The safe use of various power tools with instructor supervision

C. Recognize
   a. The use of technology, CNC Machine(9.4.12.B.33)
   b. Tools and equipment used in the major trades.(9.4.12.B.75)

D. Complete

a. Group projects (PCTI cutting boards)
b. Shop maintenance projects (shelving or racks)
c. Individual projects using hand and power tools
c. CTA projects and assessments

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-basic
19. Begin CNC Technology

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		
Understand and demonstrate proper behavior in classroom and shop		D		
Identify Career Opportunities in the trade		I		
Demonstrate the safe and proper use of hand tools		I D		
Demonstrate the safe and proper use of power tools (instructor supervision)		I		
Demonstrate good work habits		D		
Demonstrate an understanding of employability skills		D		
Identify materials used in the various related trades		I		
Understand basic shop math		I D		
Demonstrate good measuring skills		D		
Identify basic blue prints		I		
Apply basic procedures for building a project		I D		

BUILDING MAINTENANCE I

Student Handout

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Proficiencies

Students will be able to:

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