CHINO VALLEY UNIFIED SCHOOL DISTRICT
INSTRUCTIONAL GUIDE

Woodworking Basics

Course Number	3120
Department	Electives
Length of Course	12-18 Weeks
Grade Level	7-8
Board Approved	September 2, 2004

Description of Course: This is an introductory course which covers the skills and competencies of using hand tools, common power equipment, and materials common to a junior high school woodshop. Students will develop skills in woodworking through hands-on experiences that emphasize problem solving and critical thinking. This course is aligned with the State of California Industrial and Technology Education Frameworks and Model Curriculum Standards, and Career Preparation Standards (CDE).

Rationale for Course: Many students lack the skills necessary to achieve career success. This course stresses safety and the rules and regulations necessary to successfully work in cooperation with the teacher and other students towards completion of projects. This course reinforces the academic core curriculum in math, language arts, and technology, and builds a bridge to career success.

Standard 1: Goal Setting

1.1 Objective: Students will participate in goal setting activities that will enable them to achieve their educational goals in basic woodworking.
- 1.1.1 Performance Indicator: Students will understand the basic course requirements, methods of student evaluation, course objectives, class procedures, and content.
- 1.1.2 Performance Indicator: Students will develop a thorough knowledge of skills and attitudes concerning the safe use of hand and power tools, machines, equipment, materials, and processes and will demonstrate this understanding at all times.
- 1.1.3 Performance Indicator: Students will understand that everyone possesses a full range of aptitudes, skills, and emotional expressions.

Standard 2: Self Management Skills

2.1 Objective: Students will learn “self-management” skills that allow them to monitor, reward and direct their efforts to become responsible for their own learning.
- 2.1.1 Performance Indicator: Students will learn skills for organizing materials, time and space.

2.1.2 Performance Indicator: Students will maintain an organized workstation.
2.1.3 Performance Indicator: Students will be required to return all equipment to its proper place in good order.
2.1.4 Performance Indicator: Students will demonstrate a positive work ethic by good attendance and showing up to class on time.
2.1.5 Performance Indicator: Students will set priorities on a weekly basis for each class.
2.1.6 Performance Indicator: Students will keep a “To-Do” list of important activities and assignments.

Standard 3: Students will learn about woodshop safety as comprehensively as possible.

3.1 Objective: Students will anticipate unsafe conditions and change them to avoid accidents.
3.1.1 Performance Indicator: Students will study and follow the woodshop safety rules carefully.
3.1.2 Performance Indicator: Students will pay attention to what they are doing.
3.1.3 Performance Indicator: Students will listen carefully to all instructions.
3.1.4 Performance Indicator: Students will not run, shove one another, or cause any quick movements that may harm another.
3.1.5 Performance Indicator: Students will learn where the exits and fire extinguishers are in case of fire.
3.1.6 Performance Indicator: Students will dispose of waste materials in the proper containers.
3.1.7 Performance Indicator: Students will demonstrate knowledge of the safety rules for individual tools and follow those rules.
3.1.8 Performance Indicator: Students will use the right tool for the right job.
3.1.9 Performance Indicator: Students are not to operate tools without permission from the teacher.
3.1.10 Performance Indicator: Students are to keep all guards in place and observe all warnings.
3.1.11 Performance Indicator: Students are to be aware of marked safety zones. The safety zone is for the machine operator only.
3.1.12 Performance Indicator: Students are to carry hand tools so that their sharp edges point toward the floor.
3.1.13 Students are to position hand tools so their cutting edges point toward the center of the workbench.
3.1.14 Students must report any defective (broken) tools to the teacher.
3.1.11 Students are to report any injuries to the teacher immediately.

Standard 4: Students will learn to make a detailed plan for a woodworking project that will help the project go smoothly and use materials economically.

4.1 Objective: Students will make a plan that includes drawings, a materials list, and step by step procedures.

4.1.1 Performance Indicator: Students will develop working drawings that show in detail the size and shape of the project and how it will fit together.
4.1.2 Performance Indicator: Students will develop a bill of materials that includes the number and description of each part, kind of materials, size and amount of materials, and cost of materials.
4.1.3 Performance Indicator: Students will develop a plan which lists the necessary steps for building the project and includes necessary tools and machines.
4.1.4 Performance Indicator: Students will learn to calculate lumber cost using the board foot formula and the square foot formula.

Standard 5: Students will learn the correct use of hand tools.

5.1 Objective: Students will be able to identify and use many types of hand tools.
5.1.1 Performance Indicator: Students will identify and use basic layout tools including: bench rule, squares, marking gauge, scratch awl, pencil, tape measure, and compass.
5.1.2 Performance Indicator: Students will identify and use saws including: crosscut, ripsaw, coping saw, back saw, dovetail saw, and miter box saw.
5.1.3 Performance Indicator: Students will identify and use shaping and forming tools including: planes, files, surform, chisels, and carving tools.
5.1.4 Performance Indicator: Students will identify and use drilling and boring tools including: brace and auger bits, drill bits, doweling jigs, and countersink.
5.1.5 Performance Indicator: Students will identify and use clamps including: the hand screw, bar, and c-clamp.
5.1.6 Performance Indicator: Students will identify and use various tools including: hammers, screwdrivers, pliers, nail set, scraper, file card, bench brush, bench vise, wrenches, bench stop, and putty knife.

Standard 6: Students will learn the correct use of portable power tools.

6.1 Objective: Students will be able to identify and use many types of portable power tools.
6.1.1 Performance Indicator: Students will identify and use the basic power tools including: orbital sander, electric drill, saber saw, router, and hot melt glue gun.
6.1.2 Performance Indicator: Students will learn the safety and operating procedures for power tools and obey all classroom rules.

Standard 7: Students will learn the correct use of stationary machines.

7.1 Objective: Students will be able to identify and use many types of stationary machines.

7.1.1 Performance Indicator: Students will identify and use stationary machines including: jig saw, combination disc and belt sander, drill press, planer, vertical bandsaw, table router, jointer (optional), lathe (optional), and table saw (optional).

7.1.2 Performance Indicator: Students will learn the safety and operating procedures for stationary machines and obey all classroom rules.

Standard 8: Students will learn to construct projects using various joining methods.

8.1 Objective: Students will join and fasten pieces of wood using adhesives metal fasteners, and/or wood joints.

8.1.1 Performance Indicator: Students will develop an understanding of the advantages and disadvantages of wood joints including: butt joints, dowel, dado, rabbet, and miter.

8.1.2 Performance Indicator: Students will demonstrate that the strength of a joint depends upon types of materials, the amount of glue area, and how well the joint is made.

8.1.3 Performance Indicator: Students will understand the bonding properties of adhesives including: aliphatic resins, white glue, and hot melt glue.

8.1.4 Performance Indicator: Students will select the correct fasteners for the project including: nails, screws, and dowels.

Standard 9: Students will know that sanding and finishing are important steps in creating a well made project.

9.1 Objective: Students will carefully sand and prepare a wood project for finishing.

9.1.1 Performance Indicator: Students will know that many types and sizes of coated abrasives are available.

9.1.2 Performance Indicator: Students will identify the characteristics of abrasives including: kind of material, grit size, backing, bonding, coating, and size.

9.1.3 Performance Indicator: Students will demonstrate the ability to complete a wood project by applying the finish and using the correct technique which may include: surface preparation, paints, stains, clear finishes, or wax.

Standard 10: Students will research a variety of careers related to woodworking.

10.1 Objective: Students will explore the skills necessary to be successful in woodworking.

10.1.1 Performance Indicator: Students will investigate the importance of mathematics and communication skills as they relate to careers in woodworking.

10.1.2 Performance Indicator: Students will identify personal characteristics such as interest, ability, and personality that will help determine suitability to work.

10.1.3 Performance Indicator: Students will study a wood-related career, do research on the career, and write a report to share with the class.

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