

**Unit:** Book 1 Projects

**Title:** Book Case

**Skill(s) and Knowledge:** Students will be able to: identify the tools and materials and processes needed to complete the book case project, while maintaining a safe working environment.

**Tasks:** Fabricate the parts and assemble a book case according to the working drawings and instructions.

**Performance objective:** Create a cut list, identify materials and fasteners, follow directions, read working drawings, use and maintain hand and power tools.

**Tools, supplies and reference materials:**

1 x 4 x 10' pine, 1 x 12 x 10' pine, 2) 1 x 12 x 8' pine, 6 lineal feet of ½" pine quarter round, wood glue, 4d and 6d finish nails, 6d box nails, ¼" x 3' x 4' luan or similar, 4) 4' shelf standards, 12) shelf clips, Career Connections Book 1 Chapter 10 pages: 252-265.

**Methods of instruction:** Provide each student with the materials to and tools to complete the project and allow students to work at their own pace referencing the Career Connections Book 1 Chapter 10 and following the instructions, and asking questions of the instructor as needed.

**Estimated time:** 8-10hrs. **Number of students:** 10-15

**Task analysis or activities:** Students will work in small groups at shop tables, with all the previously mentioned power tools, working together to complete all activities and helping each other as they progress at their own pace.

**Evaluation:** Students will be graded on their use of time, safety methods, quality of work, cleaning and organization of their work area, interaction with other students, and vocational employability skills grading rubric. Book case project evaluation on page 283.

**Performance Notes:**

**Vocational Frameworks References**

- 2.E.01.01 Demonstrate use and maintenance of layout, marking and measuring tools.
- 2.E.01.02 Demonstrate use and maintenance of fastening and clamping tools.
- 2.F.01.02 Demonstrate use and maintenance of power miter saw.
- 2.F.02.01 Demonstrate use and maintenance of portable drills.

**English/Strand 3 Frameworks References:**

RST Grades 9-10 #4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases in a technical context.

**Frameworks References: Math**

N-Q3 Identify significant figures in recorded measures and computed values based on the context given and the precision of the tools used.

**Common Core References:**

- Read and listen critically for information understanding and enjoyment
- Set goals and achieve them by organizing time, workspace, and resources effectively
- Work both independently and in groups

**SCANS references:**

**Foundation Skills:**

1. Basic skills— reading, writing, mathematics, speaking, and listening.
2. Thinking Skills-- thinking creatively, making decisions, solving problems, visualizing, knowing how to learn, and reasoning
3. Personal qualities--individual responsibility, self-esteem, sociability, self management, and integrity

**Work Place Competencies**

1. Resources--allocating time, money, material, space, and staff.
2. Interpersonal skills--working in teams, teaching others, serving customers, leading negotiating, and working well with culturally diverse populations.
3. Information--acquiring and evaluating data, organizing and maintaining files, interpreting & communicating, and using computer to process information
4. Systems--understanding social, organizational, and technological systems, monitoring and correcting performance, and designing or improving systems.
5. Technology--selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies

**CAREER CONNECTIONS: PROJECT BOOK 1**

**Lesson Plan:** Chapter 10, Bookcase

**Time Required:** Ten 50-minute class periods (to construct the bookcase; instructions to construct a CD rack and magazine rack are provided as alternative or additional projects, as needed)

- Allow time to check out students on safety and operation of tools to be used in the project if they have not already demonstrated safety and operation competency.
- Allow time, depending on the complexity of the project, for students to make up the cut list (1-2 hours).
- Allow time before the shop period ends for cleaning up the shop.

**Goal:**

Work with new tools and techniques, including cutting and installing trim, to construct a bookcase.

**Objectives:**

At the end of this chapter, students should be able to:

- Demonstrate safe and proper use of a compound miter/pneumatic nail gun
- Demonstrate safe and proper use of a router
- Make rabbets and dados
- Employ use of diagonal corner to corner measurements to check square
- Adjust for square

**Cooperative Learning:**

For more complex projects, students can work in pairs or in teams. In this case, both students in the pair or all members of the team will receive the same grade in evaluations. Working in pairs or in teams will shorten the time required to complete the projects if time in the shop is an issue. This method of building projects will also cut down on the amount of material used.

**Procedures:**

The following provides a summary of instructional and assessment procedures.

**Teach**

| <b>Minutes</b> | <b>Activity</b>   |
|----------------|---|
| Class Period 1 |   |
| 10             | <i>Chapter 10 Introduction</i><br>Review the lesson goal and objectives with students.  |
| 10             | <i>Practice Activity</i><br>Before students begin work on the bookcase, discuss the need to cut and install trim that is accurately measured and fits tightly. Explain how they are going to practice these skills by building a box. |
| 30             | Have students begin building the practice box.  |

Carpentry Frameworks Based Lesson Plan

Framework: 2.E, 2.F

|                 |  |
|-----------------|--|
| Class Period 2  |  |
| 50              | Monitor use of the miter saw as students cut and install the base board for the practice box.  |
| Class Period 3  |  |
| 50              | Guide students through completion of the practice box by cutting and installing the quarter round molding.   |
| Class Period 4  |  |
| 10              | Discuss expectations for construction of the bookcase and how the project will be evaluated.   |
| 40              | Review with students the illustrations of the bookcase. Direct students in the development of a cut list for this project.                             |
| Class Period 5  |  |
| 25              | Allow time for students to finalize the cut list.  |
| 25              | Have students begin laying out and cutting the sides, top, and bottom of the bookcase. Guide students as they use the router to cut rabbets and dados. |
| Class Period 6  |  |
| 50              | Guide students as they complete the sides, top, and bottom of the bookcase.  |
| Class Period 7  |  |
| 50              | Have students begin assembling the side, top, and bottom pieces.   |
| Class Period 8  |  |
| 50              | Guide students as they complete the assembly of the side, top, and bottom pieces.  |
| Class Period 9  |  |
| 50              | Have students begin cutting and installing the base and trim supports.   |
| Class Period 10 |  |
| 40              | Guide students through the fit and completion of the bookcase.   |
| 10              | <i>Project Review</i><br>Review completed results. Assign alternative projects as needed.<br>Ask students to review Chapter 11 for the next class.     |

**Assess**

| <b>Assessment Activity</b>       | <b>Assessment Method and Criteria</b>  |
|----------------------------------|--|
| Bookcase, CD Rack, Magazine Rack | See rubrics and evaluation sheets. Additionally, a skills matrix will be provided. |