

## **Agricultural Structures**

### **Unit III — Building Construction**

#### **Instructor Guide**

**The instructor should distribute the student handouts at the beginning of the unit and assign the performance-based assessment activities in conjunction with the relevant lesson material as indicated in the instructor guide. Students will complete the activities as they progress through the unit lessons.**

1. Emphasize the importance of following local building codes and zoning laws when building new structures or making repairs. Discuss relevant local building codes and zoning laws.
    - a. Information regarding building codes and zoning laws is available from local regulatory agencies, such as the planning and development department, public works department, and county board of commissioners.
    - b. General information about Missouri building codes and zoning laws is also available from the MU Extension, University of Missouri-Columbia, accessed January 17, 2012, from <http://muextension.missouri.edu/explore/agguides/>.
  2. Use “JS 5.1, Joist Layout” to assess student competency at laying out joists for floor framing. Students will lay out and assemble an 8' x 10' section of floor joists. For a complete description of the activity, see “JS 5.1,” p. III-65. **NOTE: This activity calls for students to use hand and power tools. Students should only complete this performance-based activity if they have mastered all the relevant competencies and have the instructor’s permission to perform the activity.**
  3. Use ‘JS 7.1, Rafter Layout’ to assess student competency at laying out rafters. Students will lay out the ridge cut, seat cut, and tail cut for a rafter on boards, paper, or cardboard. For a complete description of the activity, see “JS 7.1,” p. III-107.
  4. Use “AS 8.1, Applying Roofing Materials” to assess student competency at applying shingles. Students will use appropriate roofing techniques to apply paper shingles to a desk or shop table. They will also answer three key questions about applying roofing materials.
    - a. For a complete description of the activity, see “AS 8.1,” pp. III-125–III-126.
    - b. Answers for the activity are located on p. III-114.
  5. The student handout for this performance-based assessment activity is a checklist based on these activity sheets that students can use to evaluate their work.
  6. The student handout and scoring guide can also be adapted for use with students’ class projects, if desired.
  7. The final assessment score will be based on the ability to safely and correctly perform the assigned procedures and to answer questions about applying roofing materials.
8. ADDITIONAL ACTIVITIES:

- a. Have students make models of building styles and building substructures discussed in the unit, such as a shed with a hip or gable roof, a truss, and a stud frame wall with a door and window opening. Small wood stock (e.g., strips of balsa or Popsicle sticks) would be suitable for these projects.
- b. As an alternative to a larger class project, have students build a smaller project, such as a dog house, which requires them to apply many of the same construction skills.