

Unit: Project Book 3 Commercial Unit 7

Title: Acoustical Ceilings

Skill(s) and Knowledge: Interpret reflected ceiling plan. Identify acoustical ceiling components, grid patterns, and installation height. Procedure for determining equal borders.

Tasks: Students will be able to: Determine ceiling height, layout and install grid using hanger wire, and install ceiling panels.

Performance objective:

Students will identify and install acoustic ceiling grid and ceiling panels. Students will practice cutting metal grid with aviation snips and ceiling panels with a utility knife, and appropriate use of scaffolding to reach ceiling heights.

Tools, supplies and reference materials:

Water level or laser, chalkline, Screw gun, aviation snips, type S drywall screws, scaffold or ladders, Ceiling grid materials, i.e., wall angle, main, hanger wire, cross T's 4' and 2'. Career Connections Project Book 3 pages: 347- 388.

Methods of instruction: Demonstration on how to install acoustical ceiling, including, metal grid and ceiling panel cutting techniques. Lecture on how to determining equal borders- using power point presentations. Field trip to a local jobsite or the Union Training Hall to see the task performed by professional carpenters.

Estimated time: 30 hrs. **Number of students:** 10

Task analysis or activities:

Students will install an acoustic ceiling.

1. Set-up the needed materials
2. Refer to the prints
3. Use a laser or water level to establish a reference line
4. Determine wall angle height
5. Install wall angle
6. Install grid with hanger wire
7. Cut and install ceiling panels

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. Manipulative skills assessments and written evaluations.

Performance Notes:

Vocational Frameworks References

- 2.A.01.05 Identify and apply OSHA safety regulations.
- 2.E.01.01 Demonstrate use and maintenance of layout, marking and measuring tools.
- 2.G.01.03 Demonstrate use and maintenance of step ladders.
- 2.G.02.03 Erect light duty rolling scaffolds.
- 2.J.01.02 Install suspended ceiling systems.

English/Strand 3 Frameworks References:

- 2.B.01-06 Determine the meaning of symbols, key terms, and other domain-specific words and phrases in a technical context.

Frameworks References: Math

- G-SRT8 Use Trigonometric ratios and Pythagorean Theorem to solve right triangles in applied problems.
- G-CO12 Make formal geometric constructions with a variety of tools and methods.

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

Workplace 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, maintaining and troubleshooting technologies.