

COURSE SYLLABUS

PRE-ENGINEERED METAL BUILDINGS

Course Description:

This course is designed to provide the Iron Worker student with training in safely unloading and storing material; erecting primary and secondary structural framing systems; installing insulation, wall materials, metal roofing, flashing, gutter, trim and accessories; repairing common metal building problems and failures; and re-roofing and performing other metal building renovations.

Course Objective:

The objective of this course is to enable a student to safely erect pre-engineered metal buildings.

Learning Outcomes:

Upon successful completion of this course, the student will be able to:

- Describe pre-engineered metal buildings including the history and trends.
- Safely unload and store material
- Erect primary and secondary structural framing systems including girts and purlins
- Install insulation, wall materials, metal roofing, flashing, gutter, trim and accessories
- Repair common metal building problems and failures
- Re-roof and perform other metal building renovations

Target Audience:

This course is designed for Apprentices and Journeymen.

Length of Course:

This course is designed to be offered during a total of 45 hours – 15 hours of classroom instruction and 30 hours of hands-on lab or shop training.

Course Materials:

- **Pre-engineered Metal Building Systems** Reference Manual
- **Pre-engineered Metal Building Systems** Student Workbook and Drawings
- **Pre-engineered Metal Building Systems** Instructor Guide (for instructors only)
- **Pre-engineered Metal Building Systems** Instructor DVD (for instructors only)
- **Video** – Module 6 of Subpart-R – Pre-Engineered Metal Buildings
- **Assignment Sheets** (in the Student Workbook)
- **Job Sheets** (in the Student Workbook)
- **Test** (in the Instructor Guide)

A Word about Safety

The importance of safety will be addressed and reinforced in all hands-on activities in the classroom, in the shop, and on the job site.

Course Assignments:

There are Assignment Sheets for each unit of instruction (as outlined by the specific objectives in each unit). Students will complete these Assignment Sheets prior to and/or during course sessions as determined by the instructor. Job Sheets will be completed as part of each unit. Most Job Sheets will be completed in the lab or shop area and/or outside in a work area.

Course Grading Criteria:

To successfully complete this course, the student must complete all of the assignment sheets, demonstrate the required skills in the lab or shop, and pass the knowledge tests.

Course Schedule:

NOTE: The following Course Schedule is set up for blocks or sessions 3 hours in length. If your class sessions are more or less than 3 hours, you will need to adjust the number of sessions accordingly.

Topics/Activities

Introductions

Review of the course syllabus including the course objectives

Discussion of classroom, outside assignments and shop activities

Unit 1: Metal Building Systems: A Brief History

Test – Unit 1

Unit 2 – Unloading and storing material, conducting site evaluation and preparation, checking anchor bolts and checking concrete slabs for square

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 2

Unit 3 – Erecting primary structural framing systems

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 3

Unit 4 – Erecting secondary structural framing systems including girts and purlins

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 4

Unit 5 – Installing insulation

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 5

Unit 6 – Installing wall materials

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 6

Unit 7 – Installing metal roofing

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 7

Unit 8 – Installing flashing, gutter, trim and accessories

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 8

Unit 9 – Repairing common metal building problems and failures

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 9

Unit 10 – Re-roofing and performing other metal building renovations

Lecture and discussion

Skills demonstrations, apprentices practice and skills testing

Test – Unit 10

Skills demonstrations, apprentices practice and skills testing

Skills demonstrations, apprentices practice and skills testing

Skills demonstrations, apprentices practice and skills testing

Skills demonstrations, apprentices practice and skills testing

Final skill performance tests

Course summary and closing