

New Ironworker Training Materials

The Apprenticeship and Training Department is in the process of developing a core curriculum for local union apprenticeship programs. The core curriculum will help to standardize the knowledge and skills of graduates and will include the courses that every Ironworker should complete in order to become a competent journeyman. To support this core curriculum, we are working with Mosaic (a union materials development and printing company) to update all of our primary training materials. These updated materials will be published as training packages ready for use by apprenticeship coordinators and instructors.

The training package is designed for use by both the Ironworker instructor and student. Each training package will contain four or five primary components that the instructor and apprentices will use during classroom and shop sessions. The components of a training package include:

- Reference manual
- Instructor guide
- Student workbook
- Blueprint book (for some packages)
- CD-ROM

Reference Manual – The reference manual is the heart of the training package and contains all of the content or information the Ironworker student needs to learn during the course. The information is presented in a unit of instruction format. To support the content presented in the reference manual there are photographs, drawings, safety tips, and other information. Note for some of the packages (e.g., welding, structural) there will be several reference manuals.

Instructor Guide – This guide is designed for use only by the course instructor. The guide contains general and specific information and suggestions on how to teach the course using the package. Also included in this guide are the tests and

the answers to both the assignment sheets (in the student workbook) and to the tests.

Student Workbook – The Ironworker student will use this workbook before and during classroom and shop sessions throughout the course. The workbook contains assignment sheets for each of the units of instruction in the reference manual. These can be used as homework or may be used as in-class activities for individuals or small groups of students. The answers to the assignment sheets are in the instructor guide. The workbook may also contain job sheets that are used by both the instructor and student to learn hands-on skills.

Blueprint Book – Some technical course training packages will include a blueprint book. These blueprints support the content in the reference manual and may be used during classroom presentations, completion of assignment sheets and/or job sheets and when taking tests.

CD-ROM – The CD-ROM is designed for use by the instructor before and during each course session. The CD-ROM contains presentations (each containing a number of slides) for each unit of instruction that are designed to be projected by a computer on to a screen in the classroom. In addition to text slides supporting the content in the reference manual, these presentations may also include video segments of key skills and Internet links that will take the user to websites of companies and organizations related to the content being presented. When appropriate, the CD-ROM will contain blueprints and other supplemental materials that the instructor can use during classroom presentations.

Each reference manual includes a number of units of instruction. While the various components of a unit of instruction are separated and will appear in the reference manual, instructor guide and student workbook, they are considered to be part of an overall unit.

By dividing the larger course content into smaller units, it is easier to focus on specific content during course sessions. There are times (e.g., journeyman upgrading course) when you may want to teach only one selected unit. Each unit of instruction typically includes objectives, suggested activities, information sheets, assignment sheets, job sheets (in selected units), tests and answers to the assignment sheets and tests. Each of these components is described below.

Objectives – Each unit of instruction is based on performance objectives with clear learning outcomes. These objectives state the goals of the unit, thus providing a sense of direction and accomplishment for the Ironworker student. Performance objectives are stated in two forms: a unit objective, stating the subject matter to be covered in the unit, and specific objectives, stating the Ironworker student performance necessary to reach the unit objective.

Suggested Activities – Each unit of instruction has suggested activities outlining steps to follow in accomplishing the specific objectives for that unit. The instructor will review these prior to a course session in order to help plan and prepare for classroom and shop presentations. These suggested activities are in the instructor guide.

Information Sheets – The information sheets provide content essential for meeting the knowledge objectives in the unit. The information sheets serve as an excellent guide for presenting the information necessary to develop the skills and knowledge specified in the unit and specific objectives. Note that the sequence of the specific objectives is the same as the sequence of the content presented in the information sheets. The information sheets are in the reference manual.

Assignment Sheets – Assignment sheets give direction to study and furnish practice for paper and pencil activities to develop the knowledge that is a necessary prerequisite to skill development. These may be given to the Ironworker student for completion in class or used for outside assignments. The

assignment sheets are in the student workbook.

Job Sheets – A job sheet presents the steps to perform a skill. Many of the units of instruction will include job sheets to help the students develop the required skills to become a skilled Ironworker. The procedures outlined in the job sheets give direction to the skill being taught and allow both the Ironworker student and instructor to check progress toward accomplishment of the skill. The job sheets also provide a ready outline for students to follow if they have missed a demonstration. The job sheets are in the student workbook.

Knowledge and Skill Tests – Tests have been constructed to measure achievement of each objective listed in the unit. Testing will help the instructor to determine if students have achieved the unit and specific objectives. The unit skill tests are the job sheets. The instructor should observe each Ironworker student performing the skills presented in the job sheets and record the student's performance in the student's record. The knowledge or written tests are in the instructor guide. The job sheets are in the student workbook.

The pre-engineered metal buildings training package in the new format has been printed and copies are being sent to each local union. Copies of the package are now available for purchase and use by local unions. Work is underway on other training packages including welding, rigging and cranes, reinforcing, and unbonded post tensioning.

We are confident that these new training packages in our new format will be well received by local unions and will become an essential component in the development of skilled Ironworkers ready to meet the needs of our contractors. For more information on ordering training packages, please contact this department at 202-383-4870.