Tilt-Up Course Descriptions

Orientation
Safety & Health Certifications
Lifting & Bracing Safety
Slabs / Interior-Exterior Footings
Tilt-Up Introduction
Print Reading - Panel Layout
Print Reading - Panel Construction
Building Layout - Transit Level / Laser
Specialized Forms & Rigging
Wall-Column Forms / Cutting & Burning
Stairs & Ramp Forming
Site Work / Curb & Gutter
Foundations & Flatwork
Poured-In-Place Wall Forms
Commercial Floor Framing
Commercial Roof Framing

ORIENTATION (40 Hours)
This course covers basic workplace safety training and provides an introduction to the tilt-up jobsite environment. Math applications, as well as tools and equipment used in the industry will be discussed. Successful students will receive OSHA 10, ACR CPR, First Aid and Forklift Operator qualification cards.

SAFETY & HEALTH CERTIFICATIONS (40 Hours)
Scaffold erection, aerial lift equipment, and first aid and CPR techniques are the major focus of this training. Safety discussions will cover hazard recognition and prevention methods. In addition to CPR practice, task assignments utilize inspection, scaffold assembly-disassembly, and aerial lift safe operating procedures. Students that successfully complete training will receive scaffold-aerial lift qualification and ARC certification cards.

LIFTING & BRACING SAFETY (40 Hours)
This class will introduce the various types of bond breakers used in the industry. Product catalogs will be used to review the proper use of each product. Safety on the lifting and bracing of wall panels will be discussed in detail. Manufactures specification on specific hardware in securing temporary braces will also be covered. Review all safety aspects of rigging and setting panels with the crane.

SLABS / INTERIOR-EXTERIOR FOOTINGS (40 Hours)
This class teaches students how to set and form footing forms based on blueprints and shop drawings. Also included will be a discussion on forming methods on slab construction, stressing the importance of a level slab for casting tilt-up panels.

TILT-UP INTRODUCTION (40 Hours)
This course is designed to give an overview of the Tilt-up industry. Forming techniques for walls, windows and door bucks will be covered. Tilt up hardware, panel raising hazards, and job site safety will be discussed.
PRINT READING – PANEL LAYOUT (40 Hours)
This course will focus on the layout technique for a typical tilt-up panel through tilt-up blueprints and specifications. Students will also learn to identify specific hardware and its application for tilt-up construction.

PRINT READING – PANEL CONSTRUCTION (40 Hours)
This class will cover layout techniques on a typical tilt up panel and the importance of 3-4-5 methods in squaring a panel. Identifying specific openings and the location of finish floor lines and roof lines through blueprint reading will be included.

BUILDING LAYOUT – TRANSIT LEVEL / LASER (40 Hours)
This class uses blueprints and shop drawings to teach students building layout techniques using builders and laser levels to set up batter boards marking the building footprint. Students will have hands-on experience in acquiring layout skills and marking out the location of the building foundation.

SPECIALIZED FORMS & RIGGING (40 Hours)
This course will assist the student in forming various types of complex forms related to tilt-up panels. Job safety will also be emphasized. Students will learn formulas to calculate concrete volume for tilt-up panels. Proper rigging techniques and calculations will be covered.

WALL-COLUMN FORMS / CUTTING & BURNING (40 Hours)
This course presents the forming methods and techniques used in the construction of reinforced concrete walls and columns. Form design, print reading, estimating, and hands-on projects for single and double-waler forming systems will be included. Students will be introduced to safe operating and cutting procedures for the oxygen-acetylene torch.

STAIRS & RAMP FORMING (40 Hours)
This course provides the students with the methods, procedures and practices used to form stair and ramp structures. Formwork types, building codes, layout techniques, and construction procedures will be presented during the training. Students will use print dimensions to determine materials and calculate rise and run for the selected stair and ramp construction project. State and Federal building codes pertaining to stairs and ramps will be covered in this class.

SITE WORK / CURB & GUTTER (40 Hours)
This course covers the forming methods and techniques used in the construction of site work, curbs and gutters. Site work layout, elevation, and construction practices will be presented. Jobsite safety, print interpretation, material identification and site preparation will be included in the training. Students will construct sidewalk, curb and gutter forms to prints specifications.

FOUNDATIONS & FLATWORK (40 Hours)
This course covers the design and function of several types of foundations and concrete flatwork. The methods, techniques and procedures for formwork layout, elevation, and construction will be presented. Jobsite safety, print interpretation, material identification, and basic use of the builders’ level will be included in the training. Students will construct three selected formwork projects.
POURED-IN-PLACE WALL FORMS  
(40 Hours)
Varies types of pour-in-place wall forms will be covered in this class. Introduction of the various types of wall systems and their specific applications will be discussed. Shop time will be used to construct some of these wall systems to familiarize participants in the set up and assembly of their product.

COMMERCIAL FLOOR FRAMING  
(40 Hours)
This course covers floor joist construction and the various installation techniques used in the commercial industry. Students will interpret floor plans for job planning; identification of floor joist system, and to calculate material take offs. Integration of wall plating, joist layout and floor sheathing methods will be included. Instruction will incorporate measuring skills, use of mathematical principles, specialty hardware, and identification of applicable building codes.

COMMERCIAL ROOF FRAMING  
(40 Hours)
This course provides an introduction to basic gable roof framing, terminology and construction characteristics. Students will interpret plan and elevation views to determine rafter systems and layout details. Basic rise, run, rafter angles and length calculations will be introduced. Wall construction will be incorporated to facilitate the gable roof installation procedures that are the focus of this training.