

List of Certification Skills for Construction Technology I

- ✓ **Site Layout**
 - Interpret a construction site/plot drawing and relate the man-made and topographical features and other project information to the layout and topography on the actual site.
 - Convert measurements given in feet and inches to equivalent decimal measurements stated in feet, tenths, and hundredths, and vice versa.
 - Properly use taping equipment and procedures to make distance and site layout measurements.
 - Determine the approximate distances by pacing.
- ✓ **Intro to Concrete**
 - Perform volume estimates for concrete quantity requirements.
 - Construct a simple concrete form with reinforcement.
- ✓ **Handling and Placing Concrete**
 - Properly handle, place, and consolidate concrete in selected concrete forms.
 - Use a screed to strike off and level a concrete surface.
 - Use a bullfloat and/or darby to level and smooth a concrete surface.
 - Use an edger to form a radius at the edges of a concrete pad, slab, etc.
 - Use a jointer to make control joints in a concrete surface.
 - Use a hand float and finishing trowel to level high spots, remove imperfections, and smooth a concrete surface.
- ✓ **Intro Masonry & Masonry Units and Installation**
 - Put on eye protection, respiratory protection, and a safety harness.
 - Demonstrate the ability to properly use a trowel to spread and furrow bed joints and butter head joints.
 - Lay a dry bond.
 - Accurately cut masonry units with a brick set and masonry hammer, a block set and mash, and a masonry hammer, power saw, and splitter.
 - Spread, edge, and furrow bed joints.
 - Butter masonry units and place them on a bed joint.
 - Lay masonry units in courses that are true for height, level, plumb, and straightness.
 - Build a rack back corner lead.
 - Lay masonry units to the line.
- ✓ **Floor Systems Framing**
 - Layout and construct a floor assembly.
 - Install bridging.
 - Install joists for a cantilever floor.
 - Install a subfloor using butt-joint plywood/OSB panels.
 - Install a single floor system using tongue-and-groove plywood/OSB panels.
 - Estimate the amount of materials needed to frame a floor assembly.
 - Given specific floor load and span data, select the proper girder/beam and joist size from a list of available girders/beams/joists.
- ✓ **Wall and Ceiling Framing**
 - Lay out, assemble, erect, and brace exterior walls.
 - Cut and install ceiling joists on a wood frame building.
 - Estimate the materials required to frame walls and ceilings.
- ✓ **Roof Framing**
 - Use a framing square and speed square in laying out a roof.
 - Frame and sheathe a gable roof with an opening.
 - Erect a gable roof using trusses.
 - Estimate the materials used in framing and sheathing a roof.
- ✓ **Roof Applications**
 - Install fiberglass shingles on gable and hip roofs.
 - Complete the proper cuts and install the main and hip ridge caps using fiberglass shingles.
 - Lay out, cut, and install a cricket or saddle.
 - Install wood shingles and shakes on roofs.
 - Complete the cuts and install the main and hip ridge caps using shakes/shingles.
 - Demonstrate the techniques for installing other selected types of roofing materials.