

APPLIED INDUSTRIAL TECHNOLOGY (CONSTRUCTION TENDING AND HAZARDOUS MATERIAL ABATEMENT) (ATLB)

ATLB-1010 Craft Orientation for Laborers **1 Credit**

Course designed for Laborer apprentices in their first year. History of the labor movement in North America and the Laborer's International Union of North America (LIUNA). Fringe benefits, the apprenticeship program, union organization, work site management structure and work ethics. Basic construction math, measuring, terminology and tool identification are included.

Lecture: 1 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1020 Measurements and Leveling **2 Credits**

Construction measuring using rulers and tapes. Introduction to leveling and layout instruments. Elevation transfer and standard building layout procedures.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1030 Laborers: Introduction to Transits **2 Credits**

A study of construction site layout for building positioning using digital instruments. Emphasis is placed on instrument applications and field data recording.

Lecture: 2 hours

Prerequisite(s): Departmental approval by Program Training Director.

ATLB-1040 Pipelaying **2 Credits**

Calculation and application of grades, distances and elevations of storm water and sanitary sewer piping. Procedures for preparing the site for the pipe and its installation. Safety regulations and practices.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1050 Aerial Lift and Forklift Refresher **1 Credit**

Basic overview of the safety standards for the operation and work functions of aerial platform lifts and forklifts as prescribed by the Occupational Safety and Health Administration (OSHA).

Lecture: 1 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1060 Field Rigging Practices **1 Credit**

Certification course covering the Occupational Safety and Health Administration (OSHA) rigging standards in Subpart H and CC. Included are hoisting, rigging and crane safety, rigging hardware and slings, and signaling procedures. Also included is terminology, types of tackle and inspection practices.

Lecture: 1 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1070 Grade Laser **2 Credits**

Advanced course covering the construction grade laser, its components and application. Also included are the safety requirements as prescribed by the Occupational Safety and Health Administration (OSHA), interpretation of engineering drawings and applied math.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1080 Building Drawings for Laborers **2 Credits**

Introductory course that identifies application of construction building drawings used by the Construction Laborer to the construction site. Also included is a discussion of the development of building drawings, how to interpret them and how mechanical, electrical and plumbing drawings (MEP) relate to architectural plans.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1210 Concrete Placement **2 Credits**

History of concrete, its properties and calculation of material quantities. Site preparation, form layout and installation. Placement and consolidation of concrete, and finishing and curing procedures will be discussed, demonstrated and practiced in field application.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1220 Traffic Control **2 Credits**

Covers the procedure for establishing traffic control including flagging operations for asphalt placement, barrier and control sign stationing, and placement of asphalt on roadways. Presentations covering estimating asphalt quantities. Care and use of hand tools for installation procedures.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1230 Radiation Worker **1 Credit**

Fundamentals of radiation, how it affects the worker and the importance of recognizing the health hazards associated with it. Methods used to clean contaminated sites and measures that are taken to avoid radiation on jobsites, including energy producing facilities and nuclear plants. Operation, maintenance and repair of respective equipment.

Lecture: 1 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1340 Mason Tending

3 Credits

Study of scaffolds related to masonry work, mortar components, and materials requirements. Includes concrete properties and ingredients, steps in making concrete, properties of cement, erection and stocking of scaffolds, mortar preparation, and tools required. Extensive guided instruction and practice provided.

Lecture: 3 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1350 Storm, Sanitary and Water Drawings

2 Credits

Advanced course covering the interpretation of construction drawings used for the installation of storm water and sanitary sewer systems and water lines. Also included are safety considerations as prescribed by the Occupational Safety and Health Administration (OSHA), and a review of basic math concepts needed for establishing proper grade and slope and estimating pipe and bedding requirements.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1360 Laborer Safety OSHA 30

2 Credits

Certification course covering safety and health standards as prescribed by the Occupational Safety and Health Administration (OSHA) for Laborers in the construction industry. Included are specific subject focus with respect to working with concrete handling and work in confined spaces.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1370 Laborers Safety Training Transport

1 Credit

Certification course covering the Occupational Safety and Health Administration (OSHA) standard with respect to the General Duty Clause, worker safety on construction sites and the responsibilities of the employer and employee. In addition, the safety program as prescribed by OSHA is compared to the National Institute of Safety and Health (NIOSH) and the major causes of jobsite accidents are discussed.

Lecture: 1 hour

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1380 Laborers: Confined Space

1 Credit

Certificate course covering the Occupational Safety and Health Administration (OSHA) standards with respect to working in confined spaces. Included are workplace hazards and health concerns and respiratory protection. In addition, working procedures and permit writing requirements will be addressed.

Lecture: 1 hour

Prerequisite(s): Departmental approval: admission to the Laborer's apprenticeship program.

ATLB-1390 Mason Tending Forklift

2 Credits

Course covers the safe operation of the rough terrain forklift and addresses site effects of machine operation. In addition, related load capacities, including boom angles, swing loads and machine maintenance affect operation and machine life.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Laborer's apprenticeship program.

ATLB-1410 Pipe Lasers

1 Credit

Introductory course describing the pipe laser, its components and set up procedures. Included is an overview of the safety standards as prescribed by the Occupational Safety and Health Administration for worker safety and equipment applications for storm water and sanitary sewer installations.

Lecture: 1 hour

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1420 Scaffold Builder

2 Credits

Course covers the assembly and dismantling of three scaffold types, tube and coupler, fabricated frame and systems. Included are the general requirements for all scaffold assembly and dismantling as prescribed by the Occupational Safety and Health Administration (OSHA).

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-1430 Scaffold User and Skid Steer Safety

1 Credit

Certification course covering hazard recognition including electrical and fall hazards related to working on scaffolds and skid steers. Included are practical applications related to safe operation of the equipment and worker safety on scaffolds.

Lecture: 1 hour

Prerequisite(s): Departmental approval: admission to Laborer's Apprenticeship program.

ATLB-1600 Asbestos Abatement

2 Credits

Study of concepts related to EPA, OSHA, and ODH requirements for asbestos abatement. Includes types of asbestos, diseases linked to asbestos exposure, sampling techniques, stages of development, and safe work practices.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-1808 Special Topics in Asphalt and Traffic Control

2 Credits

Introductory course that identifies application of construction building drawings used by the Construction laborer to the construction site. Also included is a discussion of the development of building drawings, how to interpret them, and how mechanical, electrical and plumbing drawings (MEP) relate to architectural plans.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to an approved apprenticeship program.

ATLB-1812 Special Topics in Grade Lasers**2 Credits**

Advanced course covering the construction grade laser, its components and application. Also included are the safety requirements as prescribed by the Occupational Safety and Health Administration (OSHA), interpretation of engineering drawings and applied math.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2110 Small Engines & Concrete Saws**2 Credits**

Start-up procedures and safety requirements of small engine machines and gas powered saws. Trenching equipment, chain saw safety and 2-cycle and 4-cycle engines will be covered.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2120 Pneumatic Tools**2 Credits**

The care and use of pneumatic tools including compressors and pavement breaking equipment, carpenter tending duties, and hydraulic splitters. The safe operation of a sandblaster. A review of OSHA Subpart I, pneumatic tools and personal protective equipment (PPE) is given.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-2130 Pressure Pipe**2 Credits**

Types of pressure pipe waterline, including asbestos and ductile iron pipe, and installation techniques required to meet industry standards. Bedding requirements, trenching safety standards, and tapping procedures.

Applied math concepts required for pressure and volume loss tests are also covered.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-2140 DOE Rigging Practices**2 Credits**

Qualification course covering Department of Energy (DOE) regulations, the Occupational Safety and Health Administration (OSHA) rigging standards in Subpart H and CC and rigging inspection practices. A review of basic math concepts used for calculating areas, volumes, load weights and sling tension for safe hoisting of various load configurations is included.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2150 Guniting**2 Credits**

Properties of guniting, its mixture and use and applications in the construction industry. Discussion and application of equipment operation and maintenance, including various nozzles for special conditions.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement apprenticeship program.

ATLB-2160 Tunnel Construction**4 Credits**

History and terminology of tunneling in the construction industry. The need for tunnels and methods of boring is addressed. Skill development using specialty tools and equipment including jack-leg drills and hand tools for tunneling is included. Installation procedures, alignment and bolting of steel liner plates are demonstrated and practiced.

Lecture: 4 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-2170 Gas Pipeline Worker II**4 Credits**

Advanced course covering general skills required for gas pipe line installations including site clearing, split fence installation and tensioning. Also discussed and explained are specialty operations, including waterway installations, pipe preparation and placement and safe tool and equipment use.

Lecture: 4 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2180 GPS**2 Credits**

Advanced course covering the basic operation of the GPS and its application to the construction industry. Included are field exercises and application of related math concepts used to locate property boundaries and longitudinal and latitudinal coordinates.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2190 Hazwoper**2 Credits**

Certification course covering health and safety hazards related to the abatement of hazardous materials on worksites. In addition, remediation and removal procedures will be covered and the safety standards protecting the public safety and abatement worker will be covered.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2200 Surveying Techniques and Application**3 Credits**

Study of modern surveying techniques, applications, and methodology. Includes equipment, data collection methods, field records, plane transformations, software, and routine procedures.

Lecture: 3 hours

Prerequisite(s): Completion of 6 credit hours in ATLB, ATCT, ATBL, or ATCM coursework.

ATLB-2210 Scaffold Builder/Dismantle**2 Credits**

Course covers the assembly and dismantling of three scaffold types, tube and coupler, fabricated frame and systems. Included are the general requirements for all scaffold assembly and dismantling as prescribed by the Occupational Safety and Health Administration (OSHA).

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Construction Tending and Hazardous Materials Abatement apprenticeship program.

ATLB-2310 Advanced Instruments

2 Credits

Instrumentation used for highway and building construction and layout. Includes calculations required for determining local coordinates, staking and road alignments, and the pinning of a building with offsets and open and closed transverses. Also included are procedures and techniques required for setting up and using total station equipment.

Field applications and exercises.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Construction Tending and Hazardous Material Abatement apprenticeship program.

ATLB-2320 Gas Pipe Line Worker

2 Credits

Introductory course covering the general skills, safety and mainline operations required to work on gas pipe line installations. Also includes proper selection of valves for each situation.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Construction Tending and Hazardous Material Abatement apprenticeship program.

ATLB-2330 Highway Drawings

2 Credits

Advanced study of construction drawings covering the interpretation of plans, profiles and related sheets used in roadway construction. Included are standard, detail and typical sheets used to establish elevations, curves, storm water drainage and utility locations.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to the Laborer's apprenticeship program.

ATLB-2400 Pipelaying Techniques

2 Credits

Study of standard pipelaying techniques, practices, and procedures. Includes trenching, excavation safety, line and grade determination, and gravity flow systems.

Lecture: 2 hours

Prerequisite(s): Completion of 6 credit hours in ATLB, ATCT, ATBL, or ATCM coursework.

ATLB-2600 Scaffolds/High Elevation Techniques

3 Credits

In-depth study of scaffolding and high elevation procedures. Set up and erection procedures, scaffold types, scaffold parts, and safety requirements.

Lecture: 3 hours

Prerequisite(s): Completion of 6 credit hours in ATLB, ATCT, ATBL, or ATCM coursework.

ATLB-2650 Demolition Techniques

3 Credits

Study of industry standard demolition techniques. Topics include use of cutting tools, use of cutting torches, and safe removal of materials and clean-up procedures.

Lecture: 3 hours

Prerequisite(s): Completion of 6 credit hours in ATLB, ATCT, ATBL, or ATCM coursework.

ATLB-2660 Grade Checking

4 Credits

The layout and interpretation of surveyor stakes for highway construction. Included is the application of math concepts required for determining slope and elevation of roadways at sub-grade and top pavement, centerlines, and shoulders. The set up and operation of curbing machines and grade lasers is covered.

Lecture: 4 hours

Prerequisite(s): Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

ATLB-2680 Gas Distribution Worker

7 Credits

Coverage of gas pipeline installations for commercial and residential applications including proper pipe handling, fusion and placement, and site preparation and restoration. Additionally, all safety regulations as prescribed by OSHA(Occupational Safety and Health Administration), MUTCD (Manual On Uniform Traffic Control Devices) and ODOT (Ohio Department of Transportation), for general public, environmental and worker safety will be addressed with demonstration of these procedures and student applications.

Lecture: 7 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2740 Lead Abatement

3 Credits

Concepts related to OSHA lead abatement regulations. Includes areas of lead abatement, responsibility of lead abatement workers, effects of lead in the body, personal protective equipment, collection methods, and labeling systems. Extensive guided instruction and practice provided.

Lecture: 3 hours

Prerequisite(s): Completion of 6 credit hours in ATLB, ATCT, ATBL, or ATCM coursework, or departmental approval.

ATLB-2801 Special Topics in Plastic Pipe Fusion

2 Credits

Advanced US Department of Transportation (USDOT) qualification course covering polyethylene pipe, types, uses and installation techniques. Included are various pipe connections using heat and electro fusion.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2806 Special Topics in Storm, Sanitary, and Water Drawings

2 Credits

Advanced course covering the interpretation of construction drawings used for the installation of storm water and sanitary sewer systems and water lines. Also included are safety considerations as prescribed by the Occupational Safety and Health Administration and a review of basic math concepts needed for establishing proper grade and slope and estimating pipe and bedding requirements.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Laborer's apprenticeship program.

ATLB-2808 Special Topics: ICRA For Laborers

2 Credits

Certification course explaining infection control risk management ICRA that identifies worker hazards, controls and disease transmission, patient risk groups and related hazards resulting from construction and renovation in hospitals and health care facilities. In addition, the fabrication of containment barriers and installation and monitoring of negative air equipment is covered. .

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Construction Tending and Hazardous Materials Abatement apprenticeship program.

ATLB-2809 Special Topics: Plastic Pipe Fusion II

2 Credits

Advanced US Department of Transportation (USDOT) qualification course covering polyethylene pipe, types, uses and installation techniques. Included are various pipe connections using heat and electro fusion.

Lecture: 2 hours

Prerequisite(s): Departmental approval: admission to Construction Tending and Hazardous Materials Abatement apprenticeship program.