



**Training Proposal for:**

**Finishing Trades Institute of District Council 36 Joint  
Apprenticeship Training Trust Fund**

**Agreement Number: ET17-0905**

**Panel Meeting of:** August 26, 2016

**ETP Regional Office:** North Hollywood

**Analyst:** M. Reeves

**PROJECT PROFILE**

Contract Attributes:	Retrainee Apprenticeship Veterans Priority Rate	Industry Sector(s):	Construction  Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Los Angeles, Orange, Riverside, San Bernardino, Imperial, Kern, Mono, Inyo, San Diego, San Luis Obispo, Santa Barbara, Ventura	Repeat Contractor:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Union(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No International Union of Painters and Allied Trades, District Council 36		
Turnover Rate:	≤20%		
Managers/Supervisors: (% of total trainees)	N/A		

**FUNDING DETAIL**

<b>Program Costs</b>	+	<b>Support Costs</b>	=	<b>Total ETP Funding</b>
\$715,696		\$49,680 8%		\$765,376

<b>In-Kind Contribution:</b>	<b>50% of Total ETP Funding Required</b>	<b>Inherent</b>
------------------------------	--	-----------------

**TRAINING PLAN TABLE**

Job No.	Job Description	Type of Training	Estimated No. of Trainees	Range of Hours		Average Cost per Trainee	Post-Retention Wage
				Class / Lab	CBT		
1	Retrainee Journeyman Priority	Commercial Skills Computer Skills, OSHA 10/30	40	8-200	0	\$1,717	\$24.71
				Weighted Avg: 73			
2	Retrainee Apprentice (Painter)	Commercial Skills, OSHA 10/30	200	8-210	0	\$2,002	\$21.28
				Weighted Avg: 144			
3	Retrainee Apprentice Veterans (Painter)	Commercial Skills, OSHA 10/30	25	8-210	0	\$2,002	\$21.28
				Weighted Avg: 144			
4	Retrainee Apprentice (Industrial Painter)	Commercial Skills, OSHA 10/30	30	8-210	0	\$2,002	\$21.28
				Weighted Avg: 144			
5	Retrainee Apprentice (Glazier)	Commercial Skills, OSHA 10/30	93	8-210	0	\$2,002	\$21.28
				Weighted Avg: 144			

**Minimum Wage by County:** \$21.28 per hour Statewide (Priority Industry).

**Health Benefits:**  Yes  No This is employer share of cost for healthcare premiums – medical, dental, vision.

**Used to meet the Post-Retention Wage?:**  Yes  No  Maybe

Up to \$7.32 per hour may be used to meet the Post-Retention Wage for Job Numbers 2 and 3; up to \$6.09 per hour for Job Number 4; and up to \$1.45 per hour for Job Number 5.

**Wage Range by Occupation**

Occupation Titles	Wage Range	Estimated # of Trainees
<b>Job Number 1</b>		
Journeyman Painter		15
Journeyman Industrial Painter		15
Journeyman Glazier		10
<b>Job Number 2</b>		
Apprentice Painter		200
<b>Job Number 3 (Veterans)</b>		
Apprentice Painter		25
<b>Job Number 4</b>		

Apprentice Industrial Painter		30
<b>Job Number 5</b>		
Apprentice Glazier		93

## **INTRODUCTION**

The Finishing Trades Institute of District Council 36 Joint Apprenticeship Training Trust Fund (Finishing Trades JATTF) ([www.de36.org](http://www.de36.org)) was established in January 2013 under the auspices of the International Union of Painters and Allied Trades (IUPAT). The Trust is successor to the former Southern California Painting & Drywall Industries Apprenticeship Trust, which held prior ETP training contracts.

The Finishing Trades JATTF is a non-profit organization established in 1908 to provide training for Apprentices and Journeymen Painters, Drywall Finishers and Glaziers. Facilities are available for workers represented by local unions under IUPAT District Councils on a nationwide scale. District Council 36 represents approximately 8,000 members. Bargaining for the signatory employers is conducted by two trade associations: Los Angeles Painting & Finishing Contractors Association, and the Western Wall & Ceiling Contractors Association.

There are three apprentice program sponsors as reflected in the Job Numbers: Painter & Paperhanger Decorators JAC (Job Numbers 2 & 3); Dist. Council 36 Industrial Painter JATC (Job Number 4); and So Cal Glaziers & Glassworkers Industry JAC (Job Number 5). These Job Numbers are within the Apprentice funding cap of \$450,000 per program sponsor.

This is the sixth ETP Agreement with the Finishing Trades JATTF. This is the first time Veterans have been introduced as a distinct cohort of Apprentice trainees.

### **Apprenticeship Program**

The Panel is authorized to fund Apprentice training that does not displace any other source of government funds, or replace an existing apprenticeship program approved by the Division of Apprenticeship Standards (DAS). ETP funding is designed to supplement cost of delivery for the Related and Supplemental Instruction (RSI) portion of DAS-approved apprenticeship training. Depending on the type of trade, apprenticeship programs vary in length. In this case the programs are four years.

Apprentice programs are typically sponsored by a Joint Apprenticeship Training Committee (JATC). A JATC is created through collective bargaining, with an equal number of members appointed by union and management with employer contributions to a training trust fund. The employers are not “participants” but are signatories to the Collective Bargaining Agreement.

RSI is traditionally delivered as class/lab, and ETP does not reimburse CBT delivery for apprenticeship training. The curriculum is developed with input from DAS and a designated Local Educational Agency (in this case Los Angeles Unified School District and North Orange County ROP). The Apprenticeship Program allows reimbursement for up to 200 hours of RSI plus OSHA10, per-apprentice. (Journeymen are capped at 200 hours.)

For the building trades, it is not customary for workers to be employed for a standard retention period of 90 consecutive days with one employer. In that instance, the Panel may substitute non-consecutive hours worked for retention. This modified retention period must be no less than 500 hours within 272 days with more than one employer. Both the standard and modified retention periods will apply to this proposal.

To ensure ETP does not displace Montoya Funds, Apprenticeship reimbursement is reduced by \$5, reducing the priority industry rate from \$18 to \$13 per hour. In addition, the Panel adopted a “blended rate” for Journeymen, reflecting the fact that they may be employed by a variety of contractors over the two-year term of contract ranging from large employers, to small ( $\leq 100$  employees). This is \$22 per hour, midway between the Priority Industry standard rate (\$18) and Small Business rate (\$26).

The ETP wage for Apprentices is no less than \$21.28 per hour, tracking the Special Employment Training wage as modified for priority industries. However, the actual wages paid are shown in the Training Plan Table and contract when they exceed \$21.28, as applies to Journeymen in this proposal.

## **PROJECT DETAILS**

The Finishing Trades JATTF indicates that the demand for specialty workers is driven by newer products and more stringent requirements in the commercial and industrial construction industry. Contractors are also seeking workers that are certified to industry standards put forth by the Society of Protective Coatings, a non-profit professional society that sets standards for working with coatings on steel and other industrial construction materials. Accordingly, training will be provided to Journeyman Painters and Glaziers assigned to specialty work involving new finishes, industrial painting and coating systems, and lead-safe practices. In addition, some trainees will specialize in marine painting skills to work for private contractors performing shipbuilding and maintenance work.

Apprentice Painters and Glaziers will receive training under the standards approved by DAS. Currently, contractors need apprentices with skills that will enable them to work in specialized commercial and industrial jobs. Some work requires industry certifications, and all work must be performed at high levels of efficiency.

### **Training Plan**

**Commercial Skills (90%)** - Training will be offered to all occupations. Journeymen will learn new products, applying new finishes, lead paint removal, abrasive blasting, complex spraying systems, marine work and welding, and advanced materials, systems and equipment. Training will also include working in unique situations such as confined spaces, and meeting specialized building codes. Some trainees may become skilled enough to advance to foreman level, and also to serve as on-the-job safety superintendents responsible for the set-up, maintenance, and supervision of a safe work environment.

Apprentice Painters will receive training in industrial and commercial painting. Apprentice Glaziers will learn to select, cut, assemble, install, remove, and replace glass and glass substitutes; install commercial building facades, skylights, and windows of all types; and do project layout and welding. Training will help Apprentices become more productive earlier in their careers, and work safely and efficiently on a variety of job sites.

**Computer Skills (5%)** - Training will be offered to select Journeymen to learn basic computer operations in a building trades setting.

**OSHA 10/30 (5%)** - Training will be delivered to Journeymen and Apprentice trainees to ensure safe working conditions on-the-job. OSHA 10/30 training is a series of courses “bundled” by industry sector and occupation. It consists of 10 hours of training for journey-level and 30 hours for frontline supervisors. The coursework is geared to construction work and manufacturing.

Completion of the training results in a certificate that expands employment opportunities. The coursework must be approved by Cal-OSHA, and the instructors must be certified by Cal-OSHA.

### **Impact/Outcome**

Journeyman courses are designed to prepare trainees for certification from the Society for Protective Coatings. Apprenticeship training will result in advancement to Journeyman status.

### **Curriculum Development and Feedback**

Curriculum is developed by the painting industry with national and local input. Union and management are consulted through joint committees at all levels. A focal point for these activities is the Finishing Trades Institute, which makes recommendations to the Trust and other local groups for training programs and curriculum elements. Feedback comes from trainee class assessments and reports from contractors and union representatives to Finishing Trades JATTF management.

### **Marketing and Support Costs**

Employers are notified of training through association websites, mailings, and presentations. Employers participate as members of the joint committee that operates the JATTF, and training is designed around their needs and the general needs of the industry.

Finishing Trades JATTF requests 8% support costs to assist with apprentice recruitment and employer outreach. Although many of the signatory employers have already been made aware of this training opportunity, additional outreach and needs assessments will take place during the term of the Agreement. Staff recommends the 8% support costs.

### **Electronic Recordkeeping**

ETP staff has approved the use of a Learning Management System for recordkeeping.

### **Commitment to Training**

Employers will continue to make contributions to the JATTF for every hour worked by covered employees. Safety training is provided by the participating employers in accordance with all pertinent requirements under state and federal law.

### **Training Coordination**

Training is scheduled to begin in September 2016 for 18 months including a new cohort of Apprentices for training hours that are not covered under ET15-0922. Training will be delivered at four locations in Commerce, Santa Fe Springs, Garden Grove and San Diego by experienced, Journeyman trainers with extensive applied knowledge and teaching experience.

Project administration will be performed in a partnership of the Finishing Trades JATTF, the Los Angeles Unified School District (LAUSD) and Steve Duscha Advisories. The Finishing Trades JATTF will handle class scheduling and completion of training rosters. The two administration vendors will assist in employer liaison, documentation of work hours, uploading training and enrollment data, ETP reporting and related activities.

**Tuition Reimbursement**

Students enrolled in the ETP-funded program will not be charged tuition, fees, or any other costs associated with training. The representation will be made a condition of the Agreement.

**RECOMMENDATION**

Staff recommends approval of this proposal.

**ACTIVE PROJECTS**

The following table summarizes performance by the Finishing Trades JATTF under an active ETP Agreement:

Agreement No.	Approved Amount	Term	No. Trainees (Estimated)	No. Completed Training	No. Retained
ET15-0922	\$649,650	02/21/15 – 02/20/17	345	590	TBD

Based on ETP Online Systems, 46,332 reimbursable hours have been tracked for potential earnings of \$665,564 (102% of approved amount). Pending final closeout of this Agreement, the Contractor projects final earnings of 100% based on training completed to date.

**PRIOR PROJECTS**

The following table summarizes performance by the Finishing Trades JATTF under ETP Agreements that were completed within the last five years:

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned \$ %
ET14-0902	Commerce	09/30/13 – 09/29/15	\$723,168	\$630,738 (87%)
ET12-0158	Commerce	10/06/11 – 10/05/13	\$93,846	\$93,846 (100%)

**DEVELOPMENT SERVICES**

Steve Duscha Advisories in Sacramento assisted with development for a flat fee of \$10,000.

**ADMINISTRATIVE SERVICES**

Steve Duscha Advisories and the Los Angeles Unified School District in Los Angeles will perform administrative services for a combined fee not to exceed 13% of payment earned.

**TRAINING VENDORS**

N/A

**Exhibit B: Menu Curriculum****Class/Lab Hours**

8 - 200 hours  
Job Number 1

Trainees may receive any of the following:

**Journeyman****COMMERCIAL SKILLS****Applicator Training**

- Corrosion
- Surface preparation
- Abrasive materials
- Coating materials
- Application methods of protective coatings
- Process control
- Safety

**Lead Paint Removal**

- Lead & other toxic metals
- Regulatory overview
- Worker protection from lead & other toxic metals
- Compliance with air, soil, water/sediment, & dust regulations
- Management of solid & hazardous waste
- Sources of lead exposure
- Control of environmental releases
- Specifications & site-specific compliance plans
- Work site preparation
- Insurance & bonding issues
- Other safety & health hazards

**Abrasive Blasting**

- Principles of surface preparation
- Primary components of an abrasive blasting system
- Abrasives
- Nozzle equipment operations hands-on session
- Portable centrifugal (wheel) blast equipment operations hands-on session

**Spray**

- Airless spray equipment operational systems
- Set-up & planning
- Equipment settings, including pressure, fan size, partial triggering
- Proper mixing techniques
- Proper spray techniques
- Troubleshooting
- Simulation experience
- Making adjustments
- Recognizing & eliminating waste of material
- Efficiency ratings
- Environmental safety

- Process control

#### Marine Plural Component

- Plural component equipment operational systems
- Troubleshooting
- Characteristics of plural component coatings
- Use of two-part high solids epoxy
- Mixing components
- Meeting specifications
- Methods of mixing: manual, at the gun, before the manifold, after the manifold

#### Marine Coatings

- Elements of marine corrosion
- Coating fundamentals
- Marine coating systems
- Antifouling coatings
- Surface preparation
- Coating application
- Quality management
- Coating failures
- Safety & environmental issues

#### Safe Working Conditions (all training supplements required safety training)

- Foreman responsibility
- Worker responsibility
- Scaffolding
- Fall protection
- Electrical safety
- Falling objects
- Working in confined spaces
- Working around pipelines
- Managing safety at the worksite

#### T-Lock System

- Material & tool selection
- Applying coating
- Troubleshooting

#### Leadership

- Goal setting
- Coaching
- Motivation
- Team building

#### Advanced Materials & Systems

- Paints
- Coatings
- Conventional spray
- Reducing overspray

Advanced Finishes

- Venetian plaster
- Glaze
- Metallic finishes

Welding

- Types of welds
- Welding theory & practice
- Welding machines
- Electrodes
- What makes a “good” weld
- Welding technique
- Inspection
- Discontinuities
- Striking & maintaining an arc
- Running a bead
- Reading the “puddle”
- Welding in all positions

Total Station Instrumentation

- Setting control points
- Taking readings
- Calibration
- Entering & retrieving data
- Transferring data to a computer
- Comparing structures with plans
- Identifying problem areas
- Documentation
- Advanced blueprint reading

Construction Site Project Management

- Foreman responsibility for communication, documentation & reporting
- Worker responsibility for documentation & reporting
- Emergency response planning

**COMPUTER SKILLS**Basic Computer Skills for Construction

- Operating system
- Entering data
- Creating reports
- Using E-mail
- Performing calculations

**OSHA 10/30** (OSHA Certified Instructor)

- OSHA 10 Construction Outreach (requires completion of 10 hours)
- OSHA 30 Construction Industry (requires completion of 30 hours)
- OSHA 10 Maritime Industry (requires completion of 10 hours)
- OSHA 30 Maritime Industry (requires completion of 30 hours)

**Class/Lab Hours**

8 - 210 hours

Trainees may receive any of the following:

Job Numbers 2 - 5

**Apprentice****COMMERCIAL SKILLS****Industrial Painting Course 1**

- Know the basics of industrial painting
- Learn the role of regulatory agencies enforcing their standards in trade
- Understand the responsibilities of employees & employers in the industrial painting trade
- Learn the requirements for an American Red Cross certification in First Aid
- Understand the requirements for an American Red Cross certification in CPR
- Know the appropriate use and care of personal protective equipment and devices in industrial painting
- Learn the appropriate use and care of specialized respiratory equipment for industrial painting
- Understand the basic tools used in industrial painting
- Know the appropriate use and care of industrial painting equipment
- Understand the materials used for industrial coating
- Know how atmospheric conditions affect performance and application
- Learn to prepare surfaces for industrial painting

**Industrial Painting Course 2**

- Know how to obtain and interpret work permits and document work procedures in the industrial painting trade
- Learn the OSHA and Center for Protection of Workers Rights (CPWR) standards for working in confined spaces
- Understand the OSHA and CPWR standards in dealing with hazards in confined spaces
- Know how to recognize and reduce confined space hazards as prescribed by the LSHA and CPWR
- Learn the appropriate use of personal protective equipment gear
- Understand the methods of fire prevention and practice standby and rescue procedures
- Know basic rigging practices
- Learn various types of ropes, cables and hardware
- Understand the practical application of knots, bends and hitches
- Know the appropriate use and application of suspended work platforms
- Learn the appropriate use of ladders
- Understand the types of uses of scaffolds
- Know the standards and specifications of surface preparation
- Learn the appropriate application of primers and coatings
- Understand the appropriate use of solvents and the cleaning procedures for hand and power tools

**Industrial Painting Course 3**

- Know the health hazards associated with the industrial painting trade

- Learn both the employer's & employee's responsibilities pertaining to medical monitoring and personal hygiene
- Understand the different environmental considerations in industrial painting
- Review how atmospheric conditions affect performance and application
- Know the personal and environmental protective measures necessary for those in industrial painting
- Understand the basics of project planning and preparation
- Know the items on the procedure checklist
- Learn the methods used for lead testing, chemical testing and air sampling
- Understand the lead-based paint abatement methods used in the interior of a structure
- Know the appropriate methods of abatement for exterior area and soil abatement
- Learn the requirements of industrial large scale abatement
- Understand the differences between pressure washing and hydroblast cleaning

#### Industrial Painting Course 4

- Review the safe and proper use of equipment in industrial coatings
- Understand the different environmental considerations in industrial painting
- Know the personal and environmental protective measures
- Understand the parts, supplies and machinery used in air blast equipment
- Know the different systems used in abrasive blast cleaning
- Learn the various types, sizes and configurations of blast machines and their corresponding functions and procedures
- Know the different types and applications of metallic coatings
- Understand the difference between the three main categories of non-metallic coatings

#### Industrial Painting Course 5

- Know the OSHA regulations pertaining to spray painting
- Review the environmental and health impacts of the materials, equipment and procedures used in surface preparation and coating application
- Review safety precautions through hands-on exercises
- Understand the different types of solvents and thinners, their chemical compositions and interactions and their appropriate applications
- Learn the factors affecting atomization and the four basic forms of atomization
- Know the use of compressed air in spray painting
- Understand the spray gun as the key element in conventional material delivery systems
- Know the use of conventional air, airless and electrostatic spray guns on different applications
- Understand the high volume low pressure system of atomization
- Understand the use of high pressure in airless spray painting systems
- Know the operation of the airless spray guns
- Know the purpose of plural component spraying
- Learn the operation of electrostatic spray painting systems
- Know the three types of wire flame spray processes

- Understand the different coating materials used in flame spray operations
- Learn the use and care of flame spray equipment

#### Industrial Painting Course 6

- Review how atmospheric conditions affect performance and application
- Understand the use of Nordson Gauge
- Know the use and application of fiberglass reinforced plastic (FRP)
- Learn the proper handling of FRP
- Learn the use of fire retardant resins of fiber reinforced compositions (FRC)
- Understand the effects of curing on polyester resins
- Understand the different processing methods of FRP
- Know the basics of reinforcement practices
- Know the basic repairs that can be made to FRP
- Know the uses of epoxy as an architectural coating
- Learn the composition and use of epoxy polyester
- Understand the use of polyurethane coatings
- Know the use of a Taylor profile comparator

#### Industrial Painting Course 7

- Know safe working practices and eliminating potential hazards
- Learn the details of job specifications
- Know the standards for use of a profile comparator
- Understand industry standards for surface preparation in obtaining bond strength
- Know the standards for sprayed metal application
- Learn the standards for metalizing spray painting
- Understand industry standards for use of the Nordson gauge
- Learn the standards on products that deal with atmospheric conditions
- Understand the standards dealing with the common coating defects and failures

#### Industrial Painting Course 8

- Know the importance of safety measures in the workplace
- Learn the role and functions of the foreman & how to become a leader
- Know how to keep time records, how to charge off labor & materials for jobs & keep accurate accounting records
- Know the characteristics, barriers, and how to overcome barriers to effective communication and how to plan, organize and estimate the needs of the job

#### Commercial Painting Course 1

- Know the basics of the painting trade
- Learn workplace safety procedures
- Know the trade applications of whole numbers
- Learn the trade applications of decimals & fractions
- Understand the trade applications of various measurements and the difference between the base-10 system and the metric system
- Know the appropriate use and care of the basic painting and wall covering tools
- Know the appropriate use and care of residential and commercial ladders

- and scaffolds
- Understand the materials used for painting
- Know how to prepare surfaces for painting and wall covering, including basic taping techniques
- Learn the impact of environmental factors on the painting process

#### Commercial Painting Course 2

- Know the importance of OSHA in the workplace
- Review the different tools, equipment and materials used in painting
- Understand how mathematical proportions are applied to practical painting problems
- Know how to measure for mixing
- Learn the principles of color identification in residential and commercial applications
- Understand the painting applications of color harmony
- Know color combination techniques
- Learn how to achieve artistry in work
- Understand how to prepare a surface for painting
- Know the natural and synthetic finishes and special items
- Learn the differences between wood graining tools and marbleizing tools
- Understand wood graining and marbleizing technique
- Know the impact of environmental factors in faux finishing
- Learn faux finishing materials and their uses
- Understand the proper use, care and maintenance of faux finishing equipment
- Know the basics of customer service and public relations

#### Commercial Painting Course 3

- Know importance of safety measures in the workplace
- Learn the differences between traditional/conventional & modern spray equipment
- Understanding the painting materials and their use
- Know the appropriate use, care and maintenance of equipment
- Learn the impact of environmental factor on spray painting
- Understand spray painting techniques
- Know how to resolve technical and interpersonal job site problems
- Review the basics of customer service and public relations

#### Commercial Painting Course 4

- Review the trade applications of whole numbers
- Review the trade applications of decimals and fractions
- Review the trade applications of various measurements and the differences between the base 10 system and the metric system
- Know different abrasive materials and their uses
- Learn the proper use, care, and maintenance of abrasive and water blasting equipment
- Understand the impact of environmental factors on abrasive and water blasting
- Know the abrasive blasting techniques
- Review job site problem resolutions

### Commercial Painting Course 5

- Know the different types, application methods, and uses of joint compound materials
- Learn the appropriate use and care of special coatings equipment
- Review the trade applications of ratios and proportions
- Review the measurements for mixing
- Understanding the impact of environmental factors on substrates
- Know the methods used in surface preparation
- Learn how to adhere to manufacturer's data during coating application and curing
- Understand the hand-rubbed finishing techniques
- Know various methods of surface cleaning
- Learn the installation of sheets and weld seams to Ameron specifications

### Commercial Painting Course 6

- Review the importance of safety measures in the workplace
- Review the trade applications of whole numbers
- Review the trade applications of decimals and fractions
- Review the trade applications of various measurements and the differences between the base 10 system and the metric system
- Know the basics of drywall construction and finishing
- Know the cost calculation of materials and labor
- Understand the characteristics and appropriate use of wall covering materials
- Know the various wall covering application techniques
- Learn the cost estimation of wall covering
- Understand how to determine the amount of paint needed in every project
- Review technical and interpersonal job site problem resolutions
- Review the basics of customer service and public relations

### Commercial Painting Course 7

- Review safe working practices to eliminate potential hazards
- Know the appropriate use and care of respiratory equipment used for painting
- Learn how to recognize and reduce confined space hazards as prescribed by OSHA & the Center to Protect Workers' Rights (CPWR)
- Understand the different types and functions of scaffolds used in industrial painting
- Know the different types and applications of metallic coatings
- Learn the contents and applications of OSHA 30
- Understand the basic information necessary to pursue National Association of Corrosion Engineers certifications

### Commercial Painting Course 8

- Review the importance of safety measures in the workplace
- Learn the role and function of the foreman and how to become a leader
- Know how to keep time records, understand how to charge off labor and materials for jobs and keep accurate accounting records
- Know the characteristics, barriers and how to overcome barriers to effective communication and how to plan, organize and estimate the needs of the job

### Glazier Apprentice Training

- Construction math
- Rigging and hoisting basics
- Hand signals
- Scaffolding basics
- Codes and regulations
- Solvents and glazing materials
- Power tools
- Using transit and leveling instruments
- Hand tools
- Man lifting devices
- Adher use and safety
- Glass cutting and fabrication
- Mirrors: job layout and measurement
- Mirrors: mounting methods
- Plastic glazing material
- Glass replacement and putty glazing
- Insulated and high performance glazing
- Security glazing
- Spandrel and architectural panel systems
- Solar collectors and skylights
- Art glass
- Auto glass
- Door and window accessories and hardware
- Anodized and painted finishes
- Setting blocks, spacers, tapes and gaskets
- Aluminum entrances
- Revolving doors
- Sealants
- Structural glazing
- Ribbon window systems
- Curtain wall layout
- Pressure wall
- Suspended glazing
- Architectural and shop drawings
- Welding

### OSHA 10/30 (OSHA Certified Instructor)

- OSHA 10 Construction Outreach (requires completion of 10 hours)
- OSHA 30 Construction Industry (requires completion of 30 hours)
- OSHA 10 Maritime Industry (requires completion of 10 hours)
- OSHA 30 Maritime Industry (requires completion of 30 hours)

Note: Reimbursement for journeyman training is capped at 200 total hours per trainee, including OSHA 10/30; reimbursement for Apprentice training is capped at 210 total hours per trainee, including OSHA 10/30, regardless of the method of delivery.