

AP C 260 Scaffold-Advanced Printreading (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Expansion of basic printreading ability to include project take-off, estimation, and layout accuracy. Methods used to determine datum and reference locations will be covered. References will be taken from multi-view drawings and students will evaluate the information to locate and orient scaffold for accurate site placement.

AP C 261 Basic Wall Framing (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Presents the theory, methods, and procedures required to frame basic walls. Hands-on practice using proper tool techniques and appropriate materials will enhance fundamental skill development. Beginning with an introduction to print reading, students will perform: basic wall layout; plating procedures; framing assembly and bracing; before aligning and completing selected wall construction project to industry standards.

AP C 262 Intermediate Stairs (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Uses floor plans and drawing elevations at an intermediate level to enhance basic stair construction skill development. Students will interpret prints to complete job planning, project layout, and material cut list for "L" shaped stair designs. Stair calculations will determine the number of stairs, landing height, stair thread and riser dimensions.

AP C 263 Advanced Roof Framing (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Provides an introduction to hip roof framing, terminology and construction characteristics. Students will interpret print views and elevations for job planning; to determine rafter systems and layout details. Basic rise, run, rafter angles and length calculations will be performed. Framed wall construction will be incorporate to facilitate the hip roof assembly techniques and installation procedures that are the focus of this training.

AP C 264 Abutments (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Provides instruction in the detailing, layout and construction of abutments used in the heavy highway industry. The terms, components, materials, building techniques and procedures will be presented. The class project includes keyway, panel, head wall and wing wall construction

AP C 265 Rigging (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Presents both lifting theory and practical rigging methods and procedures. The design, characteristics and safety working load of lifting hardware will be discussed. Rigging attachment procedures, lifting equipment, limits of operation and communication practices will be covered.

AP C 266 Solid Surface (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Covers both basic and advanced assembly and installation techniques for use of solid surface materials. Manufacturer's products, materials, safety and design considerations will be included. Students will use the proper procedures to layout, cut shapes, form joints, add edges and backsplashes, and create design inlays for countertop installation projects.

AP C 267 Panelized Roof (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Covers the structural components and building techniques associated with heavy timber construction and panelized roof systems. The advantages and types of

manufactured wood used, and their load carrying strength, span, and spacing will be discussed. A distinction between standard post and beam, and heavy timber construction will be emphasized. Students will interpret floor plan, section views and drawing elevations for job planning, and to layout and construct a heavy timber post and beam supported panelized roof.

AP C 268 Fitting Rooms/Partitions (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Compare styles, attachment methods and installation techniques for various fitting room and partition fixtures. Framing elements, mounting brackets, and panel products will be covered in both discussions and lab activities. Proper layout, leveling and securing methods will be included and applied in selected fitting room and partition applications.

AP C 269 Exit and Electrical Security Devices (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Highlight the classification and various types, models and uses for accident hazard exit ("panic") devices. A range of security products and miscellaneous types of door hardware used in the industry such as crossbars, latches, flush bolts, and kick plates will be discussed. Proper selection, installation and adjustment techniques for four types of devices will be covered. Students will complete installation and adjustment of two types of exit devices.

Drywall/Lather (AP DL)

A three-year apprenticeship program. Applicants for this program should be directed to the Carpenters Joint Apprenticeship and Training Committee for Southern California, San Diego Carpenters Training Center, 8595 Miralani Drive, San Diego, CA 92126. Telephone (858) 621-2667.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
AP DL/AP PL/ AP AC 201	Orientation	1.5
AP DL/AP PL/ AP AC 202	Safety and Health Certifications	1.5
AP DL/AP PL/ AP AC 203	Printreading	1.5
AP DL/ AP PL 205	Basic Lathing	1.5
AP DL 206	Framing Ceilings and Soffits	1.5
AP DL 207	Basic Metal Framing	1.5
AP DL 208	Framing Suspended Ceilings	1.5
AP DL 209	Framing Curves and Arches	1.5
AP DL 210	Light Gage Welding - AWS - A	1.5
AP WE 112	Drywall/Acoustical Work Experience	16
Electives (Select 3 courses)		
AP DL/AP PL/ AP AC 204	Advanced Printreading	1.5
AP DL 211	Light Gage - L.A. City Certificate	1.5
AP DL 212	Basic Hand Finishing	1.5
AP DL 213	Drywall Acoustical Ceilings	1.5
AP DL 214	Door/Door Frames	1.5
AP DL/ AP PL 215	Exterior Insulation Finish Systems (EIFS)	1.5
AP DL/ AP PL 216	Firestopping Procedures	1.5
AP DL 217	Free-Form Lathing	1.5
AP DL 218	Machine Taping	1.5
AP DL 219	Hand Taping	1.5
AP DL 220	Gypsum Board Application and Finish Trim	1.5
AP DL 221	Advanced Hand Tool Finishing	1.5
AP DL 222	Advanced Machine Tool Finishing	1.5
AP DL 223	Advanced Lathing	1.5

AP DL 224	Ceiling and Soffit Finishing	1.5
AP DL 225	Wet Wall Finishes	1.5
AP DL 226	Reinforced Substrate Installations	1.5
AP DL 227	Decorative Trims and Textures	1.5
TOTAL UNITS		34

COURSE OFFERINGS

AP DL 197 Drywall/Lather Topics (1.5)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

Prerequisite: Indentured apprentice to the Carpenters Joint Apprenticeship and Training Committee for Southern California

Note: May be taken 4 times

Topics in Drywall/Lather. See Class Schedule for specific topic offered. Course title will designate subject covered.

AP DL 201 Orientation (1.5)

1 hour lecture-1 ½ hours laboratory

Prerequisite: Indentured apprentice to a designated Joint Apprenticeship and Training Committee

Note: Cross listed as AP PL 201/ AP AC 201; may be taken two times

Introduction to the Interior Systems program. Content includes safe and proper usage of hand tools, power/powder tools, an introduction to trade related math, beginning blueprint reading and layout. Certifications will include Ramset/Red Head or Hilti low velocity power/powder actuated tools and scaffold erector/dis-mantler (welded frame).

AP DL 202 Safety and Health Certifications (1.5)

1 hour lecture-1 ½ hours laboratory

Note: Cross listed as AP PL 202/ AP AC 202; may be taken two times

Designed to incorporate learning theories, methods and techniques that meet the needs of the Interior Systems industry. Content includes certification in forklift, aerial lift, American Red Cross, First Aid/CPR and OSHA 10.

AP DL 203 Printreading (1.5)

1 hour lecture-1 ½ hours laboratory

Note: Cross listed as AP PL 203/ AP AC 203; may be taken two times

This course is designed to teach the basics of reading, understanding and visualizing the blueprints. Terms, symbols and definitions from several trades will be incorporated. Prints showing both residential and commercial application will be used. Related safety, math and blueprint reading will be covered.

AP DL 204 Advanced Printreading (1.5)

1 hour lecture-1 ½ hours laboratory

Prerequisite: A minimum grade of 'C' in AP DL/AP AC 203

Note: Cross listed as AP PL 204/ AP AC 204; may be taken two times

This course will give the student more in depth training related to on the job conditions. Basic estimating, material take offs and organizing jobs will be included.

AP DL 205 Basic Lathing (1.5)

1 hour lecture-1 ½ hours laboratory

Note: Cross listed as AP PL 205; may be taken 2 times

Covers standard lath and trim products used in the commercial industry. Methods and techniques presented will provide the basic skills needed to perform metal framing tasks, and substrate and lath installation. Procedures to select, measure, cut and attach various trim beads to fit corners and wall openings will be utilized in lab assignments. Proper leveling and finishing methods will be included and applied in course projects.

AP DL 206 Framing Ceilings and Soffits (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

This course is designed to provide instruction in the basics of framing ceilings and soffits with drywall and lath application. Related safety, math and blueprint reading will be covered.

AP DL 207 Basic Metal Framing (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

An in-depth study of basic material identification, print layout, framing, drywall applications and proper trim applications for the Drywall/Lath industry. Safety, math and blueprint reading will be covered.

AP DL 208 Framing Suspended Ceilings (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

This course is designed to provide related classroom instruction with the technical skills and knowledge to successfully frame any suspended ceiling in drywall and lath. Related hand and power tool safety, math and blueprint reading will be covered.

AP DL 209 Framing Curves and Arches (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

This course is designed to teach curves and arches, barrel ceilings, radius walls and soffits. Related hand and power tool safety, math and blueprint reading will be covered.

AP DL 210 Light Gage Welding - AWS - A (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

Designed to teach the practical skills needed for the arc welding processes and applications. Students will have the practical skills to successfully pass the AWS light gage certification. Related safety, codes and materials will be covered.

AP DL 211 Light Gage - L.A. City Certificate (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

Assists students in preparing for the Los Angeles City Light Gage Welding Certification. Written and practical skills of the test will be demonstrated and discussed in order to associate the student with the working knowledge necessary to successfully achieve a Los Angeles City Light Gage Welding Certification. Related safety, codes and materials will be covered.

AP DL 212 Basic Hand Finishing (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

Develop basic hand finishing skills using the correct tools and materials. Includes a description of finishing levels, hand tool manipulation, material identification, selection, and mixture preparation. Key processes and application techniques will be presented. Students will review plans and specifications, calculate and select materials, and complete a wall project to a level four finish.

AP DL 213 Drywall Acoustical Ceilings (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

This course is designed to provide the apprentice with the knowledge and application of Acoustical ceilings, seismic codes and the supporting theory. Wall molds and trims, and ceiling layouts will be covered. Blueprints reading will cover terms, symbols and definitions for both commercial and residential projects. Related safety, math, safety codes and materials will be covered.

AP DL 214 Door/Door Frames (1.5)

1 hour lecture-1 ½ hours laboratory

Note: May be taken 2 times

Introduction to the basic installation of door frames and various types of doors. Lock sets, closures, hinges, panic hardware, and door sweeps will be discussed and demonstrated.

AP DL 215 Exterior Insulation Finish Systems (EIFS) (1.5)

1 hour lecture-1 ½ hours laboratory

Note: Cross listed as AP PL 215; may be taken 2 times

Introduction to the basic working knowledge and technical skills needed to successfully install Exterior Insulation and Finish Systems EIFS (foam products) to meet industry specifications and standards. Introduction to the proper usage of products and materials will be discussed and used.

AP DL 216 Firestopping Procedures (1.5)
1 hour lecture-1 ½ hours laboratory
Note: Cross listed as AP PL 216; may be taken 2 times
 Emphasis on the correct methods, technical skills and firestop materials required to complete a Firestop System. Firestopping is a complete fire containment system designed to prevent the passage of fire, smoke and hot gasses from one side of a rated wall/ceiling assembly to another.

AP DL 217 Free-Form Lathing (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Introduction to the techniques and skills needed for construction of freeform lath projects. Layout techniques using grids and projection overlay will be presented. Methods for bending and shaping of rebar and pencil rod, lath handling and tying along with welding and cutting techniques will be demonstrated and applied.

AP DL 218 Machine Taping (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Advanced instruction in blueprints and finish schedules and machine parts identification as well as proper use, assembly and breakdown of tools.

AP DL 219 Hand Taping (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Instruction in blueprints, specifications and finish schedules, taping techniques, trade terminology and sequences of operations for hand taping.

AP DL 220 Gypsum Board Application and Finish Trim (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Instruction in the basics of gypsum board application and finish trims.

AP DL 221 Advanced Hand Tool Finishing (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 This course will give more in depth instruction in hand tool use. The different operations, phases and materials to be used in order to have information of what a finished product should look like.

AP DL 222 Advanced Machine Tool Finishing (1.5)
1 hour lecture-1 ½ hours laboratory
Note: May be taken 2 times
 Instruction in the proper methods and sequences of the "bazooka," flat boxes, nail spotters and angle boxes.

AP DL 223 Advanced Lathing (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 This course will distinguish advance lathing methods and styles from basic application techniques for lath and trim products used on exterior-interior metal framing. Metal framing elements, various bead styles, lathing types and substrates will be covered in both discussions and lab activities. Proper leveling and finishing methods will be demonstrated. Students will apply lath and trim using the techniques presented to complete course projects.

AP DL 224 Ceiling and Soffit Finishing (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Designed to provide an advanced level of finishing skill for applications with architecturally detailed ceilings and soffits. Guided practice with a combination of hand and automatic tool techniques will promote the level of manipulative ability required for a successful result. A variety of finish trims will be integrated into each method of finish. Training will conclude with inspection criteria for evaluating finish levels.

AP DL 225 Wet Wall Finishes (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Presents the industry use, application methods, and product mediums typically

used for wet wall finishes. The techniques and procedures used to achieve a level five finish to industry standards requires base and top coating of interior surfaces for inspection purposes. Selection and use of painting equipment and coatings will be included in the training.

AP DL 226 Reinforced Substrate Installations (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Presents the applications techniques and product considerations typical of reinforced substrate installations. The training will focus on Glass Fiber Reinforced Gypsum and Glass Fiber Reinforced Concrete (GFRG) & (GFRC) products. The lab project will include layout, cutting and handling practices, attachment methods, alignment and various related installation methods.

AP DL 227 Decorative Trims and Textures (1.5)
1 hour lecture- 1 ½ hours laboratory
Note: May be taken 2 times
 Provides advanced hand and automatic tool finishing techniques used in the application of decorative trims and special surface textures. Training includes product information for metal, paper, plastics and art beads. Special attention will be given to coating and sanding sequence of field and butt joints for selected surface textures.

Electrician (AP E)

A five-year apprenticeship program. Applications for Riverside/San Bernardino/Mono/Inyo counties should apply to the Riverside and San Bernardino Joint Electrical Apprenticeship Training. Committees, 1855 Business Center Drive, San Bernardino, CA 92408. Telephone: (909) 890-1703.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
AP E 101	Electrical Trade/Industry/DC/Conduit	4
AP E 102	Electrical Theory/Practice/Blueprint Reading	4
AP E 103	Inductance/Capacitance Theory	4
AP E 104	Transformers/Code Calculations/Conduit	4
AP E 105	Electronic/Industrial Blueprints	4
AP E 106	Grounding/Electrical Services/Connection	4
AP E 107	Motor Control/Pilot Devices/Starters	4
AP E 108	Digital Electronics	4
AP E 109	Mgmt/Alarms/Testing/Wiring	4
AP E 110	Programmable Logic Controllers	4
AP WE 113	Electrician Work Experience	16
TOTAL UNITS		56

COURSE OFFERINGS

AP E 101 Introduction to the Electrical Trade and Industry, DC Theory and Conduit Bending (4)
3 hours lecture-3 hours laboratory

Prerequisite: Completion of the following: (1) One semester of Algebra I with a grade of 'C' or better; (2) Designated tests with a passing grade determined by the appropriate committee; (3) Indentured apprentice to the San Diego Electrical Joint Apprenticeship and Training Committee or the Riverside and San Bernardino Joint Electrical Apprenticeship Training Committee.

Note: May be taken 2 times
 Orientation to the electrical industry; introduction to the electrical code fundamentals of wiring methods, fastening devices, electrical conductors, circuits, and voltage.

AP E 102 Electrical Theory, Practice and Blueprint Reading (4)
3 hours lecture-3 hours laboratory

Prerequisite: A minimum grade of 'C' in AP E 101

Note: May be taken 2 times
 Study of floor and plot plan; basic blueprint reading and circuit drawing; theory of magnetism; DC and AC generators; motors and transformers; on-the-job safety and first aid, and the electrical code.