

AP C 764 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 765 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 766 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 767 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 768 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 769 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.

AP C 770 Green Building and Weatherization (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: May be taken 2 times

Energy efficiency, "green" building methods, rating systems and commissioning will be discussed. Products, techniques, and weatherizing procedures used for new buildings and retro-fit buildings will be included in hands-on activities. Practices and devices used to maintain healthy air quality during construction will be a focus of the training.

AP C 771 Intermediate Commercial Framing (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: May be taken 2 times

Enhances basic wall framing theory, and wall construction techniques are applied at increased skill levels. A review of basic wall framing and floor plans used for

job planning, design recognition, and materials lists is included. Students will layout and detail wall plates for locating basic wall components and door openings. Instruction includes measuring skills, mathematical principles, wall assembly and installation procedures, and detail how structural connections are made.

AP C 772 Solar Installer Level I (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: May be taken 2 times

Covers the design and function of several types of solar installation. The methods, sequences and procedures for foundation layout, elevation, and assembly for solar construction will be presented. Jobsite safety, print interpretation, material identification, and use of system devices and testing criteria will be stressed. Students will construct three selected solar installation projects.

AP C 797 Carpentry Topics (.5 - 4)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or 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 Carpentry. See Class Schedule for specific topic offered. Course title will designate subject covered.

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.S. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
AP DL/AP PL/		
AP AC 701	Orientation	1.5
AP DL/AP PL/		
AP AC 702	Safety and Health Certifications	1.5
AP DL/AP PL/		
AP AC 703	Printreading	1.5
AP DL/		
AP PL 705	Basic Lathing	1.5
AP DL 706	Framing Ceilings and Soffits	1.5
AP DL 707	Basic Metal Framing	1.5
AP DL 708	Framing Suspended Ceilings	1.5
AP DL 709	Framing Curves and Arches	1.5
AP DL 710	Light Gage Welding - AWS - A	1.5
AP WE 712	Drywall/Acoustical Work Experience	16
Electives (Select 3 courses)		
AP DL/		
AP AC 704	Advanced Printreading	1.5
AP DL 711	Light Gage - L.A. City Certification	1.5
AP DL 712	Basic Hand Finishing	1.5
AP DL 713	Drywall Acoustical Ceilings	1.5
AP DL 714	Door/Door Frames	1.5
AP DL/		
AP PL 715	Exterior Insulation Finish Systems (EIFS)	1.5
AP DL/		
AP PL 716	Firestop/Fireproofing Procedures	1.5
AP DL 717	Free-Form Lathing	1.5
AP DL 718	Automatic Finishing Tools	1.5
AP DL 720	Drywall Installation/Finish Trims	1.5
AP DL 721	Advanced Hand Finishing	1.5
AP DL 722	Advanced Automatic Finishing Tools	1.5
AP DL 723	Advanced Lathing	1.5
AP DL 724	Ceiling and Soffit Finishing	1.5
AP DL 725	Wet Wall Finishes	1.5

AP DL 726	Reinforced Substrate Installations	1.5
AP DL 727	Decorative Trims and Textures	1.5
AP DL 728	Drywall Applications	1.5
AP DL 729	Advanced Metal Framing	1.5
AP DL 797	Drywall Lather Topics	.5-4
TOTAL UNITS		34

COURSE OFFERINGS

AP DL 701 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 701/AP AC 701; may be taken two times

An introduction to the Interior Systems program. Safe and proper use of hand tools, power tools, trade related math, beginning print reading and layout as well as safety certifications. Certifications will include scaffold erector/dismantler (welded frame) and low velocity powder actuated tools.

AP DL 702 Safety and Health Certifications (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: Cross listed as AP PL 702/AP AC 702; may be taken two times

Instruction in safety and health training that meets the needs of the Interior Systems industry. Content includes certification in Power Industrial Trucks, Aerial Lift, American Red Cross First Aid / CPR/AED, and OSHA 10.

AP DL 703 Printreading (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: Cross listed as AP PL 703/AP AC 703; may be taken two times

An introduction to the basic visualization skills needed for reading and interpreting construction prints. Demonstration of the significance of views, elevations and the role of specifications as they relate to prints.

AP DL 704 Advanced Printreading (1.5)

1 hour lecture - 1 ½ hours laboratory

Prerequisite: A minimum grade of 'C' in AP DL/AP AC 703

Note: Cross listed as AP AC 704; may be taken two times

In-depth training for on-the-job print reading situations. Covers advanced layout tasks and solutions to typical construction problems using plans and specifications for commercial construction projects.

AP DL 705 Basic Lathing (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: Cross listed as AP PL 705; may be taken 2 times

Presents the basic lathing methods used in the industry for exterior/interior installations. Students will use the skills presented to complete a lathing project as part of this course.

AP DL 706 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 707 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 708 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 709 Framing Curves and Arches (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: May be taken 2 times

Provides instruction in framing methods for curves and arches and their related structural limitations. Students will use the skills presented to complete a framing project that includes curves and arches as part of this course.

AP DL 710 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 711 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 712 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 713 Drywall Acoustical Ceilings (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: May be taken 2 times

Identifies the materials and methods used for the installation of acoustical ceilings. Seismic codes, materials, and requirements are also reviewed. Installation for various grid systems will be discussed. Students will use the skills presented to complete an acoustical ceiling project as part of this course.

AP DL 714 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 715 Exterior Insulation Finish Systems (EIFS) (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: Cross listed as AP PL 715; 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 716 Firestop/Fireproofing Procedures (1.5)

1 hour lecture - 1 ½ hours laboratory

Note: Cross listed as AP PL 716; 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 717 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 718 Automatic Finishing Tools (1.5)

1 hour lecture - 1 1/2 hours laboratory

Note: May be taken 2 times

Advanced instruction in blueprints, finish schedules, and machine parts identification, as well as proper use, assembly and breakdown of tools.

AP DL 720 Drywall Installation/Finish Trims (1.5)

1 hour lecture - 1 1/2 hours laboratory

Note: May be taken 2 times

Instruction in the basics of gypsum board application and finish trims.

AP DL 721 Advanced Hand Finishing (1.5)

1 hour lecture - 1 1/2 hours laboratory

Note: May be taken 2 times

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 722 Advanced Automatic Finishing Tools (1.5)

1 hour lecture - 1 1/2 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 723 Advanced Lathing (1.5)

1 hour lecture - 1 1/2 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 724 Ceiling and Soffit Finishing (1.5)

1 hour lecture - 1 1/2 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 725 Wet Wall Finishes (1.5)

1 hour lecture - 1 1/2 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 726 Reinforced Substrate Installations (1.5)

1 hour lecture - 1 1/2 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 727 Decorative Trims and Textures (1.5)

1 hour lecture - 1 1/2 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.

AP DL 728 Drywall Applications (1.5)

1 hour lecture - 1 1/2 hours laboratory

Note: May be taken 2 times

Focus on the skills to properly handle and install drywall used in specialized applications including fire resistance, sound control, and life safety. Layout, cutting, attachment procedures and productivity techniques will be discussed and practiced under jobsite conditions. Drywall finishing methods will be incorporated into the hands-on activity.

AP DL 729 Advanced Metal Framing (1.5)

1 hour lecture - 1 1/2 hours laboratory

Note: May be taken 2 times

Review of basic metal framing and detailed procedures for framing curved, serpentine, and elliptical non load bearing partitions.

AP DL 797 Drywall/Lather Topics (.5 - 4)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or 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.

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 701	Electrical Trade/Industry/DC/Conduit	4
AP E 702	Electrical Theory/Practice/Blueprint Reading	4
AP E 703	Inductance/Capacitance Theory	4
AP E 704	Transformers/Code Calculations/Conduit	4
AP E 705	Electronic/Industrial Blueprints	4
AP E 706	Grounding/Electrical Services/Connection	4
AP E 707	Motor Control/Pilot Devices/Starters	4
AP E 708	Digital Electronics	4
AP E 709	Mgmt/Alarms/Testing/Wiring	4
AP E 710	Programmable Logic Controllers	4
AP WE 713	Electrician Work Experience	16
TOTAL UNITS		56

COURSE OFFERINGS**AP E 701 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.