

**AP AC 705 Acoustical Ceilings** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Instruction in acoustical ceilings, seismic codes and the theory behind them. Wall molds and trims, ceiling layout and material identification. Students will install ceilings using the technical knowledge and skills.

**AP AC 706 Standard Acoustical Grids** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Designed with classroom instruction but will focus more on acoustical grid installation such as 2 x 4 and 2 x 2 flat AH@ pattern, radius, gable and diagonal ceilings.

**AP AC 707 Suspended Ceilings** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Designed with classroom instruction but will focus more on acoustical grid installation such as 2 x 4 and 2 x 2 flat AH@ pattern, radius, gable and diagonal ceilings.

**AP AC 708 Soffits** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Focus on square and slant faced, tapered, concealed, drywall suspension and sloped soffits.

**AP AC 709 Prefab/Sound Panels** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Focus on the technical knowledge and skills needed for the installation of prefabricated wall and ceiling panel systems. Acoustical principles and the theory of sound will be discussed.

**AP AC 710 Concealed/Glue-Up/Staple-Up System** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Instruction in concealed and semi-concealed ceilings and soffits, glue-up and staple-up. Technical knowledge and skills will be demonstrated in assembling these ceilings.

**AP AC 711 Designer and Specialty Trims** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 This course is a more advanced look at specialty and designer trims for grid ceiling systems. Previous knowledge will be applied when laying out and installing straight and curved trims in soffit and light pocket designs, along with clouds, or free floating, trimmed ceilings.

**AP AC 712 Metal Pan and Security Systems** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Focus on the technical knowledge and skills needed to work with these "high end" products.

**AP AC 713 Advanced Acoustical Installation** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Instruction in the materials and methods used for the installation of custom and intricate grid systems. Green building rating systems will be applied to selected acoustical materials.

**AP AC 714 Advanced Acoustical Layout** (1.5)  
 1 hour lecture - 1½ hours laboratory  
**Note:** May be taken 2 times  
 Advanced layout methods used to complete complex acoustical system installations. Covers seismic codes and requirements and layout techniques for establishing intricate geometric designs for ceiling grids.

**AP AC 715 Drywall Acoustical Ceilings** (1.5)  
 1 hour lecture - 1½ 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 AC 797 Acoustical 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.  
**Note:** May be taken 4 times  
 Topics in Acoustical. See Class Schedule for specific topic offered. Course title will designate subject covered.

## Carpentry (AP C)

A four-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 C 701 Orientation	1.5
AP C 702 Safety and Health Certification	1.5
APWE 711 Carpentry Work Experience	16

#### Electives (Select 14 courses)

AP C 703	Printreading	1.5
AP C 704	Advanced Printreading	1.5
AP C 705	Foundation and Flatwork	1.5
AP C 707	Tilt-Up Panel Construction	1.5
AP C 708	Wall Forming	1.5
AP C 709	Gang Forms/Columns	1.5
AP C 710	Patented Forming Systems	1.5
AP C 712	Column Forms	1.5
AP C 713	Beam and Deck Forming	1.5
AP C 714	Basic Commercial Framing	1.5
AP C 715	Advanced Commercial Framing	1.5
AP C 716	Commercial Floor Framing	1.5
AP C 717	Basic Stairs	1.5
AP C 718	Advanced Stairs	1.5
AP C 719	Exterior Finish Details	1.5
AP C 721	Basic Roof Framing	1.5
AP C 723	Basic Metal Framing	1.5
AP C 725	Transit Level/Laser	1.5
AP C 726	Bridge Construction	1.5
AP C 727	Stair and Ramp Forming	1.5
AP C 728	Stair Trim	1.5
AP C 729	Cabinet Millwork and Assembly	1.5
AP C 730	Cabinet Installation	1.5
AP C 735	Molding and Trim	1.5
AP C 736	Plastic Laminates	1.5
AP C 737	Door and Door Frames	1.5
AP C 739	Door and Door Hardware	1.5
AP C 745	Commercial Fixtures	1.5
AP C 746	Showcases and Loose Store Fixtures	1.5
AP C 747	Basic Suspended Scaffold	1.5
AP C 748	Advanced Suspended Scaffold	1.5
AP C 749	Basic Systems Scaffold	1.5
AP C 750	Intermediate Systems Scaffold	1.5
AP C 751	Advanced Systems Scaffold	1.5
AP C 752	Basic Frame Scaffold	1.5
AP C 753	Intermediate Frame Scaffold	1.5
AP C 754	Advanced Frame Scaffold	1.5
AP C 755	Basic Tube & Clamp Scaffold	1.5
AP C 756	Scaffold in Confined Spaces	1.5
AP C 757	Specialty Scaffold Applications	1.5
AP C 758	Scaffold Reshoring	1.5

AP C 759	Scaffold - Printreading	1.5
AP C 760	Scaffold - Advanced Printreading	1.5
AP C 761	Basic Wall Framing	1.5
AP C 762	Intermediate Stairs	1.5
AP C 763	Advanced Roof Framing	1.5
AP C 764	Abutments	1.5
AP C 765	Rigging	1.5
AP C 766	Solid Surface	1.5
AP C 767	Panelized Roof	1.5
AP C 768	Fitting Rooms/Partitions	1.5
AP C 769	Exit and Electrical Security Devices	1.5
AP C 770	Green Building and Weatherization	1.5
AP C 771	Intermediate Commercial Framing	1.5
AP C 772	Solar Installer Level I	1.5
AP C 797	Carpentry Topics	1.5
<b>TOTAL UNITS</b>		<b>26</b>

### COURSE OFFERINGS

<b>AP C 701 Orientation</b>	<b>(1.5)</b>
<i>1 hour lecture - 1 ½ hours laboratory</i>	
<b>Prerequisite:</b> Indentured apprentice to the Carpenters Joint Apprenticeship and Training Committee for Southern California	
<b>Note:</b> May be taken 2 times	
Introduces the use of various hand and power tools used in the trade. Students will be introduced to the history of trade apprenticeships. Construction math and job site safety practices will also be covered.	
<b>AP C 702 Safety and Health Certification</b>	<b>(1.5)</b>
<i>1 hour lecture - 1 ½ hours laboratory</i>	
<b>Prerequisite:</b> A minimum grade of 'C' in AP C 701	
<b>Note:</b> May be taken 2 times	
Covers the safe and appropriate use of scaffolds, aerial lift equipment, and emergency response procedures. Successful students will receive UBC Scaffold Erector and Aerial Lift Operator qualification cards. First Aid and CPR certification will be issued upon successful completion of the American Red Cross training provided.	
<b>AP C 703 Printreading</b>	<b>(1.5)</b>
<i>1 hour lecture - 1 ½ hours laboratory</i>	
<b>Note:</b> May be taken 2 times	
The first of two classes in blueprint reading. Covers the fundamental functions and structure of blueprints. Construction drawings, line symbols, freehand sketching as well as pictorial drawings will be covered.	
<b>AP C 704 Advanced Printreading</b>	<b>(1.5)</b>
<i>1 hour lecture - 1 ½ hours laboratory</i>	
<b>Prerequisite:</b> A minimum grade of 'C' in AP C 703	
<b>Note:</b> May be taken 2 times	
Second of two courses in blueprint reading. Covers foundation prints, commercial prints, residential prints and estimating. Construction specifications will also be covered.	
<b>AP C 705 Foundation and Flatwork</b>	<b>(1.5)</b>
<i>1 hour lecture - 1 ½ hours laboratory</i>	
<b>Note:</b> May be taken 2 times	
Covers the design and function of several types of foundations and concrete flatwork. The methods, techniques and procedures for formwork layout, elevation, and construction will be presented. Jobsite safety, print interpretation, material identification, and basic use of the builders level will be included in the training. Students will construct three selected formwork projects.	
<b>AP C 707 Tilt-Up Panel Construction</b>	<b>(1.5)</b>
<i>1 hour lecture - 1 ½ hours laboratory</i>	
<b>Note:</b> May be taken 2 times	
Designed to give an overview of the Tilt-Up industry. Form techniques and panel hardware will be discussed. Related safety, math and blueprint reading will be covered.	

**AP C 708 Wall Forming** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduces the basic techniques of poured-in-place concrete wood form construction. Related safety, math and blueprint reading will be covered.

**AP C 709 Gang Forms/Columns** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Presents the formwork types and construction methods for gang form and column installations. Discussions will cover heavy timber gang forms and use of taper ties, bracing, and bulkhead tables. The course project will include gang and column formwork construction, assembly, and hardware installation tasks. Related safety, math and print reading will be covered in the training.

**AP C 710 Patented Forming Systems** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Covers the basic knowledge required to use blueprints for the purpose of properly laying out, locating, "leveling," "plumbing," "squaring" and preparing patented forming systems for concrete work/pours. Poured in place, tilt-up and precast above grade level structural concrete work including structural "load bearing" walls, decks and columns.

**AP C 712 Column Forms** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Presents the formwork types and construction methods for column form installations. Discussions will cover structural significance of column layout, squaring, leveling and plumbing. The course project will include column formwork construction, assembly, and hardware installation tasks. Related safety, math and print-reading will be covered.

**AP C 713 Beam and Deck Forming** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduction to the use of beam and deck forming systems for concrete construction. Students will identify formwork types and installation techniques including calculating materials and setting beam & deck forms. Metal beam forms and capitals will be highlighted. Layout and builders level skills will be used in this class.

**AP C 714 Basic Commercial Framing** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Provides an introduction to the theory and practice of wall framing. Students start by learning to read floor plans, and then laying out wall locations, plate and detail, as well as openings and structural connections. Construction math and job site safety practices will also be covered.

**AP C 715 Advanced Commercial Framing** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Prerequisite:** A minimum grade of 'C' in AP C 714  
**Note:** May be taken 2 times  
 Covers layout, assembly, and erection of both standard and raked walls. Application of bracing, plumbing and aligning walls will be covered, along with construction math, blueprint reading and job site safety practices.

**AP C 716 Commercial Floor Framing** **(1.5)**  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Covers the layout and construction of both residential and commercial floor framing. The use of building codes and blueprint reading will be covered. Fall protection along with job site safety and construction math will also be covered.

- AP C 717 Basic Stairs** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Stair construction is an integral part of the carpenter's trade. This course presents stair theory, related mathematics, code requirements, and basic layout stringers, treads and risers. Students will layout, cut, and erect a straight-run stair. Blueprint reading and safety will also be covered.
- AP C 718 Advanced Stairs** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Prerequisite:** A minimum grade of 'C' in AP C 717  
**Note:** May be taken 2 times  
 Builds upon the concepts presented in Stair Building I. This class will teach students about winders, u-shaped and radius stair building, as well as code requirements and mathematical calculations. Blueprint reading and safety will also be covered.
- AP C 719 Exterior Finish Details** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Teaches students to read blueprints related to building exteriors such as elevations, sections, and schedules. Construction of structural and architectural elements such as balconies, fireplaces, bay windows, columns and pop-outs. Blueprint reading, mathematical calculations and safety will also be covered.
- AP C 721 Basic Roof Framing** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Roof construction is one of the most challenging and satisfying facets of carpentry. Introduces rafter theory and layout. Students will construct a gable roof using conventional and truss methods. Mathematical calculations for various rafter lengths and safety will also be covered.
- AP C 723 Basic Metal Framing** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduces the student to the technology of metal framing. Tools and materials will be covered along with floor and wall construction, including openings and structural connections, and metal truss roof systems. Mathematical calculations for various rafter lengths and safety will also be covered.
- AP C 725 Transit Level/Laser** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Addresses form design, material estimating and problems relative to form construction. Related safety, math and blueprint reading will be covered.
- AP C 726 Bridge Construction** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Provides students with an overview of basic bridge construction. Descriptions for exterior and interior girders, edge forms, bulkheads and hinge forms will be presented. Formwork project will include panel construction, assembly, and hardware installation tasks. Related safety, math and print reading will be covered in the training.
- AP C 727 Stair and Ramp Forming** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Designed to teach the various techniques used to form stairs and ramp structures. Related safety, math and blueprint reading will be covered.
- AP C 728 Stair Trim** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Covers how various trims are utilized to finish stair construction design features. Product styles, characteristics, applications, and installation methods are included in the discussions. The tools and techniques for cutting and installing selected trim types are presented and practiced throughout the training.
- AP C 729 Cabinet Millwork and Assembly** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduction to basic cabinet construction. Blueprint and finish schedules will be covered as well as related safety and math.
- AP C 730 Cabinet Installation** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Installation of base and wall-hung cabinets, scribing techniques, and how to read blueprint and finish schedules. Related safety and math will also be covered.
- AP C 735 Molding and Trim** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduction to various moldings and the specific installation techniques of each. Blueprint, finish schedules, related safety and math will also be covered.
- AP C 736 Plastic Laminates** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Covers manufactured product styles, characteristics, and countertop applications. Materials used as countertop and backsplash substrates are discussed. Construction procedures and installation methods are presented, and students will apply the techniques to produce and install a plastic laminate countertop with backsplash.
- AP C 737 Door and Door Frames** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduction to doors and door hardware schedules, specifications and manufacturer's catalogs. Fire codes that govern the hardware industry as well as how to identify various door hardware including locksets, closures, hinges, panic hardware and door sweeps etc. Blueprint, finish schedules, and related safety and math will also be covered.
- AP C 739 Door and Door Hardware** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Introduction to the selection and installation of proper hinge and door-closure hardware. Blueprints, finish schedules, and related safety and math will also be covered.
- AP C 745 Commercial Fixtures** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Includes print interpretation and fabrication techniques used in the preparation and installation of commercial store fixtures. An emphasis will be placed on accurate measuring, proper hand and power tool use, and safety. Students will calculate materials to create cut lists, and fabricate, assemble and install wall panel and valance fixtures.
- AP C 746 Showcases and Loose Store Fixtures** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Includes the basic cabinetmaking skills and construction techniques used in the installation of commercial store fixtures. An emphasis will be placed on measuring, hand and power tool use and safety. Students will interpret prints and material bills for the handling, locating and accurate placement of showcase components and loose store fixtures.
- AP C 747 Basic Suspended Scaffold** (1.5)  
*1 hour lecture - 1 ½ hours laboratory*  
**Note:** May be taken 2 times  
 Basic techniques and procedures associated with suspended scaffolds. The terminology and use of scaffold components in a cable suspended configuration will be the focus of this training. Construction practices and safety will be taken into consideration as students erect equipment using project design plans for this cable suspended scaffold.

**AP C 748 Advanced Suspended Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Advanced techniques and procedures required when constructing suspended scaffolds supported by structural members. Students will identify the suitable structural components for this application type. The methods used to determine load bearing capability of structural elements will be presented. The hazards and precautionary techniques associated with safely building this type of suspended platform will be the focus of this training.

**AP C 749 Basic Systems Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Basic techniques and procedures associated with systems scaffold components. Terminology and components unique to this category of equipment will be discussed. Construction practices and safety considerations will be a major focus of the class. Students will identify and erect equipment using the custom configurations for jobsites where this type of scaffold is most frequently utilized.

**AP C 750 Intermediate Systems Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Includes application of cantilevered design methods used to safely erect platforms extending beyond a typical scaffold base arrangement. Students will apply methods and erect equipment using custom configurations for jobsites.

**AP C 751 Advanced Systems Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Covers the advanced techniques and procedures required when constructing system scaffolds used in industrial boiler installation or repair applications. Students will apply common solutions for bridging voids and following equipment contours to construct the selected industrial simulated scaffold projects.

**AP C 752 Basic Frame Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Covers terminology, components and the basic techniques and procedures associated with frame scaffold components. Construction practices and safety considerations will be a major focus of the class. Students will choose and erect equipment using basic configurations suitable for jobsites where this type of scaffold is most frequently utilized.

**AP C 753 Intermediate Frame Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Introduction of obstacle and height problem solving into frame scaffold project, to include equipment or overhead restrictions. Students will identify and erect equipment using custom configurations for jobsites.

**AP C 754 Advanced Frame Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Covers the advanced techniques and procedures associated with ground supported frame scaffold, in particular the use of scaffold components for construction of various heavy-duty (industrial) elevated platforms. Safety precautions, building procedures and material utilization will be incorporated into the assigned tasks. Students will erect heavy-duty large scale platform scaffolds using project plans and designs for this industrial scaffold application.

**AP C 755 Basic Tube and Clamp Scaffold (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Covers the basic techniques and procedures associated with tube and clamp scaffold components and erection methods. Construction practices and safety considerations will be a major focus of the class. Students will learn to choose and erect equipment using custom configurations for jobsites.

**AP C 756 Scaffold in Confined Spaces (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Instruction in safe access, entry and monitoring methods for confined space. Both CAL-OSHA and Federal OSHA regulation are covered in detail. The importance of a respirator fit test and respiratory protection training are covered in this course.

**AP C 757 Specialty Scaffold Applications (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Includes specialty scaffold applications focusing on ramps, chutes and mobile towers suitable for light and heavy duty use. Students will learn the characteristics of commercial and industrial scaffold construction. Selected projects will introduce the techniques and procedures used for access/egress, debris handling, and maintenance scaffolds.

**AP C 758 Scaffold Reshoring (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Present students with the modified principles and techniques for the use of shoring equipment in a re-shore application. The importance of uniform loading and alignment of multi-tower/tandem tower configurations will be covered. Students will identify and erect scaffold equipment using three types of configurations suitable for scaffold re-shoring purposes.

**AP C 759 Scaffold-Printreading (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Fundamentals of reading construction prints. Scaffold print views, lines, dimensioning methods, symbols and details will be covered. In addition to print interpretation, sketching techniques will be introduced and students will draw several scaffold views incorporating the basic print elements presented during the class.

**AP C 760 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 761 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 762 Intermediate Stairs (1.5)***1 hour lecture - 1 ½ hours laboratory***Note:** May be taken 2 times

Uses floor plans and print elevations at an intermediate level to enhance development of basic stair construction skills. Students will interpret prints to complete job planning, project layout, and material cut list for "L" shaped stair designs. Stair calculations will be used to determine the number of stairs, landing height, stair thread and riser dimensions for the assigned project.

**AP C 763 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 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
<b>Electives (Select 3 courses)</b>		
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