

Course	Course title	Units	Year	Details
			Semester	
IWAP 301	IW Advanced Rigging /Rigging II	2	Y3S1	<p>Lecture on how to properly:</p> <ul style="list-style-type: none"> <li>• Identify Defective Rigging.</li> <li>• Proper Rigging of heavy machinery/ equipment.</li> <li>• Use of proper sling angles, and configurations.</li> <li>• How Chain falls, Tirlfurs, and Come Along are used correctly.</li> <li>• Review Case studies.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Hand-on selection of removing defective rigging.</li> <li>• Use of math to calculate weights/ sling tension of pics.</li> <li>• Use Chain falls, Tirlfurs</li> <li>• Can be used as a Certified rigger prep class.</li> </ul>
IWAP 302	IW Cranes II	3	Y3S1	<p>Lecture on how to properly:</p> <ul style="list-style-type: none"> <li>• Ordering cranes / correct selection/per contract.</li> <li>• Scheduling cranes the project to fit project demands.</li> <li>• Review case studies for cranes.</li> <li>• How to fill out a Job hazard analysis (JHA) for cranes.</li> <li>• Signals (voice and hand)</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Hands-on: voice signals (radio and phone system) demonstrate to set and move material.</li> <li>• Can be used as a Certified Rigger prep class.</li> </ul>
IWAP 303	IW Reinforcing III	3	Y3S1	<p>Lecture on how to properly:</p> <ul style="list-style-type: none"> <li>• Identify Different styles of Reinforcing structures.</li> <li>• Safety involved in the moving(rigging) and installing Reinforcing.</li> <li>• Discuss case studies.</li> <li>• How to properly fill out a Job Hazzard Assessment (JHA) for Reinforcing.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Students demonstrate how to unload material, use proper sequence to build a mock-up that uses common reinforcing techniques.</li> <li>• Fill out a Job Hazzard Assessment (JHA) for the project.</li> <li>• Can be used towards Certified Rigger prep class.</li> </ul>
IWAP 304	IW Detailing II (Reinforcing)	3	Y3S1	<p>Lecture on how to properly:</p> <ul style="list-style-type: none"> <li>• How to interpret the Structural drawings in order to create a Bar List (fabrication list), Placing Drawing (field drawing)</li> </ul> <p>Lab:</p>

				<ul style="list-style-type: none"> <li>Students will use detailing math and structural drawings to create Bar Lists (fabrication list), Placing Drawing (field drawing) Digitally.</li> </ul>
IWAP 305	IW Detailing IV (Structural)	3	Y3S1	<p>Lecture on how to properly: using Computer assisted drafting (CAD) software.</p> <ul style="list-style-type: none"> <li>Interpret the Structural drawings in order to create a fabrication drawing (shop drawing), and Framing Plan (field drawing).</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>Students will use detailing math and structural drawings to create a Framing Plan (fabrication drawing), Framing Plan (field drawing) Digitally.</li> </ul>
COMM 320	Intercultural Communication : Contexts and Dialogue	3	Y3S1	<p>This course offers students the opportunity to broaden their understanding of intercultural communication by applying communication theory and research to various domestic and global communicative contexts. This course explores topics such as intercultural identity in an interpersonal and intercultural context, media and globalization in a mass media context, and health literacy and health disparity in health contexts. This course is only open to California Community College Baccalaureate Students.</p>
PSYC 210	Elementary Statistics	4	Y3S2	<p>This course emphasizes the calculation and interpretation of the basic statistical measures, with major emphasis upon the meaning, limitations, and applicability of statistical procedures. It is intended for majors and minors in the behavioral sciences, especially in psychology and sociology. The course will include the theory of parametric and non-parametric statistical methods and its application to psychological data. Topics will include descriptive statistics, probability and sampling distributions, statistical inference and power, linear correlation and regression, chi-square, t-test, and one-way analysis of variance. Application of statistical software to psychological data is required.</p>
IWAP 306	IW Welding IV / Seismic for Structural Steel Welding	3	Y3S2	<p>Lecture on techniques:</p> <ul style="list-style-type: none"> <li>Focused on the AWS D1.8</li> <li>Recommendations for FCAW welding; electrodes, qualification, design, and fabrication.</li> <li>Learn how to interpret the AWS D1.8 code book.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>Guided instruction on D1.8 welding process.</li> <li>Opportunity to complete the certification welding test based on successful completion of weld test examination.</li> </ul>

IWAP 307	IW Welding V / LA city stick and wire Preparation course	3	Y3S2	<p>Lecture on how to:</p> <ul style="list-style-type: none"> <li>• Navigate through the American Welding Society (AWS) D1.1 book 2020.</li> <li>• Prepare for the LA City stick, and wire certification written exam.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Take the practical (hands on) certification exam at the La Palma / Fontana Facility.</li> </ul>
IWAP 308	IW Welding VI / TIG WELDING	3	Y3S2	<p>Lecture on:</p> <ul style="list-style-type: none"> <li>• The GTAW process.</li> <li>• Identifying safe GTAW welding procedures.</li> <li>• The electrical concepts of GTAW welding</li> <li>• Demonstrate how to properly hook up GTAW welding equipment.</li> <li>• The different types of GTAW electrodes and how they are used.</li> <li>• Demonstrate GTAW in multiple positions.</li> <li>• Evaluate and troubleshoot GTAW welds.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Practice and demonstrate the GTAW process.</li> </ul>
IWAP 309	IW Certified Rigger	2	Y3S2	<p>Lecture:</p> <ul style="list-style-type: none"> <li>• Identify causes of crane and rigging accidents.</li> <li>• Considerations of safety factors when performing safe rigging and load support.</li> <li>• Using math to calculate weights of loads, and determine weight, tension in rigging hardware.</li> <li>• Identify rigging hardware safety factors, how they work in relation to the size of wire rope used.</li> <li>• Inspection requirements for rigging hardware.</li> <li>• Identify steps to lift, invert and place a rigged load.</li> <li>• Determine amount of force required to pull loads along various surface types and calculate loads in a single and multiple part lines when using blocks and sheaves.</li> <li>• Use of recommended rope knots.</li> <li>• Identify ANSI/ASME approved hand signals.</li> </ul>
IWAP 310	Layout Instruments for Ironworkers II	3	Y3S2	<p>Lecture on:</p> <ul style="list-style-type: none"> <li>• Correct use and setup of a builder's level and shoot accurate elevations.</li> <li>• Correct use and setup of a theodolite, measure horizontal and vertical distances.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Students will shoot elevations and move bench marks with a builder's level, using Structural Drawings.</li> </ul>

				<ul style="list-style-type: none"> <li>Students will use a theodolite to mark horizontal and vertical distances, using Structural Drawings.</li> </ul>
IWAP 401	Advanced Layout and Total Station for Ironworkers IV	2	Y4S1	<p>Lecture on: "IMPACT"</p> <ul style="list-style-type: none"> <li>How to apply related math skills.</li> <li>Using computer assisted drafting (CAD) software to assist with total station layout.</li> <li>How to use Cartesian coordinate system.</li> <li>How to convert print dimensions to coordinates</li> <li>How to perform layout using a total station.</li> </ul>
IWAP 402	Ironworker Union Politics	1	Y4S1	<p>Lecture on:</p> <ul style="list-style-type: none"> <li>Information on how the Union Works/ Union Politics.</li> <li>Union positions, and the responsibilities of the officers.</li> </ul>
IWAP 403	Ironworker Collective, Bargaining, Agreement (CBA) Law	1	Y4S1	<p>Lecture on:</p> <ul style="list-style-type: none"> <li>Collective Bargaining Agreement (CBA) Law</li> <li>How to interpret the CBA contract.</li> <li>Student will get an understanding of the past/current CBA and how they relate to the implication of onsite jurisdiction/litigation on the various projects.</li> </ul>
IWAP 404	IW Superintendent Training	2	Y4S1	<p>Lecture:" IMPACT"</p> <ul style="list-style-type: none"> <li>Identify the roles and responsibilities of the Ironworker superintendent</li> <li>Manage project schedules</li> <li>Manage information</li> <li>Manage people</li> <li>Manage the job site</li> <li>Manage safety</li> <li>Demonstrate effective communication skills</li> <li>Close out a project</li> <li>Describe basic construction finance</li> <li>Describe basic construction law</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>Students will plan and make schedules and follow safety rules as part of the role of Superintendent.</li> </ul>
IWAP 405	IW Advanced Blueprint Reading	3	Y4S1	<p>Lecture:</p> <ul style="list-style-type: none"> <li>How to successfully navigate through, reinforcing, structural, architectural, and placing drawings/blueprints.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>Students will interpret/demonstrate a complete understanding reinforcing, structural, architectural, and placing drawings/blueprints.</li> </ul>

IWAP 406	Bonded post-tensioned concrete II	2	Y4S2	<p>Lecture:</p> <ul style="list-style-type: none"> <li>• Focused on the main difference post tension and pre-tensioned concrete</li> <li>• Grouting systems.</li> <li>• Prep for Post-Tensioned Institute certification test.</li> <li>• Students will interpret structural and post-tensioning sheets regarding the layout and installation of bonded tendons.</li> <li>• Students will also simulate the grouting procedure.</li> <li>• Students will have the ability to test for a Bonded PTI certification.</li> </ul>
IWAP 407	Ironworker fundamentals cost estimation and bidding	2	Y4S2	<p>Lecture:</p> <ul style="list-style-type: none"> <li>• Reviewing bid documents</li> <li>• Getting organized to prepare a cost estimate and bid submission</li> <li>• Identifying the impact of the project schedule on the bid price</li> <li>• Understanding fundamental quantity takeoff procedures</li> </ul>
IWAP 408	IW Metal Building Assembly/Certified Installer	3	Y4S2	<p>Lecture:</p> <ul style="list-style-type: none"> <li>• Metal Building assembly</li> <li>• Exam to become a Metal Building Assembly Certified Installer.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Hands on assembly of a metal building mock-up.</li> </ul>
IWAP 409	IW Bolting up /Structural III	3	Y4S2	<p>Lecture:</p> <ul style="list-style-type: none"> <li>• Correct use of bolting (Bolting up), activities surrounding the receiving of bolts, nuts flat washers, and direct tension washers on the jobsite.</li> <li>• Proper handling and storage, and installation.</li> <li>• Identifying various styles of bolts and washers.</li> <li>• Correct use of installation, and lubricating, and Tension/Torque.</li> <li>• Various methods used to properly tension and inspect bolting procedure.</li> </ul> <p>Lab:</p> <ul style="list-style-type: none"> <li>• Students will show skill in properly identifying, installing bolts.</li> </ul>
IWAP	IW Ornamental II	2	Y4S2	<p>Lecture:</p>

410				<ul style="list-style-type: none"> <li>• How to correctly choose and properly install various anchors and fasteners.</li> <li>• Describe the types of miscellaneous ironwork.</li> <li>• Process of assembling and install of stairs and ladder systems.</li> <li>• Process of assembling and install of catwalks, grating, fence, and guardrail systems.</li> <li>• Process of assembling and install of detention systems, space frames and canopies.</li> <li>• Process of assembling and install of highway signs, billboards, flag poles and other miscellaneous ironwork.</li> </ul>
PSYCH 410	Advanced Statistics	4	Y4S2	Advanced theory and statistical concepts will be discussed, including the use of hypothesis testing and parameter estimation. Descriptive and inferential techniques will be covered, both univariate and bivariate, including t-tests, analysis of variance, correlation, single and multiple regression, and non-parametric tests, such as chi-square. This course is only open to California Community College baccalaureate students.
BA XXX	Business Communications for Leaders	?	Y4S2	TBD