

SLO Presentation

AED

Date: 09-15-2022

ISLO

Civic Engagement

- Students will develop values and beliefs in their role as a member of local, national and global societies to promote truth, fairness and goodwill to others. They will use the democratic process to further their values and beliefs and recognize and accept differing perspectives based on cultural diversity. They will engage in actions which provide service to others and have a positive impact on their local community.

Communication and Expression

- Students will demonstrate the ability to effectively and appropriately communicate their thoughts and ideas both in written and oral forms. They will develop verbal and non-verbal delivery skills, in an appropriate manner, to communicate their ideas as well as evaluate the ideas of others in a wide variety of contexts.

Critical Thinking and Quantitative Reasoning

- Students will demonstrate the ability to recognize assumptions within an argument and actively and skillfully analyze underlying reasoning to develop a conclusion. They will apply qualitative and/or quantitative analysis to solve problems, predict outcomes, test hypotheses, and explore alternatives in an ethical manner.

Information Literacy

- Students will demonstrate the ability to determine when gathering additional information is necessary. They will use appropriate resources and technologies to locate, evaluate and incorporate the information when developing supporting arguments and drawing conclusions. Students will also develop the ability to understand any legal, ethical or social issues regarding the use of information.

Personal Knowledge and Responsibility

- Students will develop the necessary skills to define, maintain and complete their personal educational goals. They will learn to work independently to accomplish personal goals toward realizing their full potential academically, physically and emotionally whether for personal enrichment, further education or career advancement.

Adult Education
AED
AED 80.01 INTRODUCTION TO ENERGY SURVEYING 1 <ul style="list-style-type: none">• A. Identify the evaluation procedure, steps and protocols required for accurate energy data collection• B. Demonstrate the correct and safe use of various diagnostic tools and equipment• C. Describe the proper procedures when using tools and equipment• D. Demonstrate knowledge of OSHA safety standards
AED 80.02 BASIC ELECTRICITY AND WIRING FUNDAMENTALS 1 <ul style="list-style-type: none">• A. Explain basic electrical theory• B. Identify electrical practices and codes• C. Demonstrate correct wiring and installation techniques• D. Demonstrate safe use of various meters, diagnostic tools, and equipment• E. Follow proper procedures and observe OSHA safety protocols• F. Perform wiring skills based on industry set standards
AED 80.03 INTRODUCTION TO LIGHTING RETROFITS 1 <ul style="list-style-type: none">• 1. Accurately answer questions on retrofit procedure, steps, analysis, components, and safety protocols required in the lighting retrofit trade. Standard grading will be used• 2. Accurately demonstrate correct and safe use of various lighting diagnostic tools/equipment• 3. Identify the electrical tools required during lighting retrofit activities in the lab and during real-time practice retrofits
Automotive Tools and Equipment <ul style="list-style-type: none">• Demonstrate proper use of personal automotive equipment.• Demonstrate proper use of machine tools.

- Analyze interest in Automotive CTE programs.
- Employ safety measures when using automotive tools.
- Employ proper use of common automotive power tools.

College Readiness

- A. Comprehend the properties of linear and nonlinear relations
- B. Identify and solve linear quadratic and higher order equations using technology or appropriate methods
- C. Evaluate and apply basic statistics to everyday situations
- D. Identify and compute interpret basic statistics
- E. Follow the correct order when solving problems with multiple operations
- F. Use study skills to practice learned material
- G. Analyze situational problems and choose appropriate steps to solve them

Energy Corps

- A. Explain basic electrical theory
- B. Identify electrical practices and codes
- C. Demonstrate correct wiring and installation techniques
- D. Follow proper procedures and observe OSHA safety protocols
- E. Demonstrate knowledge of OSHA safety standards
- F. Demonstrate the correct and safe use of various diagnostic tools and equipment
- G. Identify the evaluation procedure, steps and protocols required for accurate energy data collection
- H. Accurately answer questions on retrofit procedure, steps, analysis, components, and safety protocols required in the lighting retrofit trade Standard grading will be used
- I. Accurately demonstrate correct and safe use of various lighting diagnostic tools/equipment
- J. Discuss the interrelationship of craft skills, construction industry, and green workers to the construction process for alternative energy
- K. Describe the basic elements of green construction and green energy buildings

Entrepreneurship

- Describe the importance of recording money management for tax purposes
- Describe goals and techniques for record keeping
- Describe how develop a business plan
- Identify resources for business startup assistance
- Identify different business structures

ESL--Cert

- Students listen to and comprehend various texts with complex sentences.
- Students read and comprehend various texts and make inferences.
- Students speak fluently on various topics.
- Students use appropriate verb forms.
- Students write a three paragraph essay with an introduction, supporting details and a conclusion.

Field Iron Workers Associate of Science (A.S.) degree

- Demonstrate knowledge of safety guidelines for ironworkers and apprenticeship journeymen in the construction industry.
- Conduct basic and supervisory tasks functions within the construction trades.
- Explain job function differences between structural and reinforcing.
- Recognized resources offered by Cerritos Community College to ironworker's apprentice program.
- Identify industry leaders, government groups, and apprenticeship originations to analyze career goals.

- Demonstrate knowledge of welding, cranes, detailing, reinforcing, structural steel, and rigging in order to perform and supervise ironworker's job functions.

GED I--Cert

- Students analyze excerpts from short stories, news articles, memorandums, and biographies.
- Students compute measurement and data analysis.
- Students construct persuasive, narrative and a thesis essay.
- Students demonstrate number sense and operations.
- Students interpret United States history and functions of government.

GED II--Cert

- Students analyze excerpts of plays and verses of poetry.
- Students apply correct usage and mechanics hen writing persuasive, narrative, and a thesis essay.
- Students explain the process structure of life and earth science.
- Students solve geometric application through the use of formulas.
- Students solve linear algebraic expressions.

Growing a Small Business

- Define how operations will evolve affecting your local economy and your company
- Describe legal requirements involved in scaling a business
- Describe which research market conditions are needed for growing your business
- Describe goals and techniques for record keeping
- Describe how to develop a two-way communication and marketing strategy using social media

Renewable Energy

- Describe the basic element of green construction and green energy buildings.
- Explain residential and commercial photo-voltaic system terminology and installation techniques.
- Perform the assembly of solar panels.
- Differentiate between the approaches and methodologies for sizing different types of (PV) systems.
- Identify the common issues addressed in interconnection agreements for (PV) systems.

Workforce Preparedness

- Create or revise a personal statement to use on applications
- Explain how to utilize employee handbook to be successful in the workplace
- Apply technology skills to research possible careers
- Understand the characteristics of a successful technology-based employee
- Utilize effective oral and written communication for the workplace

CSLO

AED10.01 - EXERCISE FOR SENIORS

- Employ the writing process in order to understand and complete the writing task

AED10.08 - Exercise For Adults

- A. Students will demonstrate exercise techniques appropriate for their individual fitness level

AED22.06 - Career Skills

- A. Use at least two venues and technologies to apply for work
- B. Successfully complete two online/hard copy applications
- C. Demonstrate how to communicate using technology
- D. Apply technology skills to set goals

AED36.06 - Occupational Training

- A. Use at least two venues and technologies to apply for work
- B. Successfully complete two online applications
- C. Write a cover letter and resume utilizing Bloom Taxonomy action verbs
- D. Demonstrate how to communicate using technology

AED36.07 - Communication for Healthcare Professionals

- Students recognize accurate production of American speech sounds in words, phrases, and sentences related to the healthcare setting.
- Students apply stress and intonation patterns of American English to healthcare related words, phrases, and sentences.
- Students identify healthcare related idioms and use them in sentences correctly.
- Students use grammatical structures correctly in types of discourse used in their chosen field of study (e.g., scheduling appointments, explaining procedures, conducting an exam).

AED42.03A - ESL Conversation A

- Describe the appropriate steps to take in response to a given situation and utterances are clear.

AED42.03B - ESL Conversation B

- Talk about various topics using learned phrases with the correct stress and for correct situations such as formal versus informal conversations and language
- Read and comprehend various texts and make inferences
- Use nouns, verbs, adjectives, and adverb forms appropriate to this ESL Conversation B level
- Listen to and comprehend various types of phrases, idioms, and sentences
- Be able to respond to questions which may include learned idioms

AED42.10 - Spanish Ged Test Prep-A

- Students construct a persuasive, narrative and thesis essay.
- Students analyze excerpts from short stories, news articles, memorandums and biographies.
- Students interpret U.S. history and functions of government.
- Students demonstrate number sense and operations.
- Students compute measurement and data analysis.

AED42.11 - Spanish GED Test Preparation - B

- Students apply correct usage and mechanics when writing persuasive, narrative and thesis essays.
- Students analyze excerpts of plays and verses of poetry.
- Students explain the process structure of life and earth science.
- Students solve linear algebraic expressions.
- Students solve geometric applications through the use of formulas.

AED42.12 - GED Preparation - A

- Students construct a persuasive, narrative and thesis essay.
- Students analyze excerpts from short stories, news articles, memorandums and biographies.
- Students interpret U.S. history and functions of government.
- Students demonstrate number sense and operations.
- Students compute measurement and data analysis.

AED42.13 - GED Preparation - B

- Students apply correct usage and mechanics when writing persuasive, narrative and thesis essays.
- Students analyze excerpts of plays and verses of poetry.
- Students explain the process structure of life and earth science.
- Students solve linear algebraic expressions.
- Students solve geometric applications through the use of formulas.

AED42.14 - Low Beginning English as a Second Language

- Students will demonstrate level appropriate competency through EL Civics project assessment.

AED42.16 - Low Intermediate English as a Second Language

- Students will demonstrate level appropriate competency through EL Civics project assessment.

AED42.17 - High Intermediate English as a Second Language

- Students will demonstrate level appropriate competency through EL Civics project assessment.

AED42.18 - Low Advanced English as a Second Language

- Listen to and comprehend various texts on different topics
- Read, comprehend and summarize various texts (orally and in writing)
- Think critically, engage in conversations on varied topics and express different points of view
- Use appropriate vocabulary and verb forms in reading, writing and speaking
- Write well-developed paragraphs for a variety of purposes and for different audiences

AED42.19 - ESL Grammar, Reading, and Writing

- A. Identify, analyze, and use correct paragraph organization, including topic sentence, support, and conclusion.
- B. Apply the writing process, including pre-writing, revising, and editing.
- C. Apply relevant support, details, examples, facts, and explanations in topic sentences.
- D. Use transition signals to link ideas in paragraph writing.
- E. Use simple, compound, and complex sentences in writing.
- F. Apply general vocabulary and academic vocabulary in writing.
- G. Use simple, continuous, and perfect tenses with regular and irregular verbs in writing.
- H. Demonstrate control over the present and past perfect tenses in writing.
- I. Analyze and correct most sentences for fragment, run-ons, and comma splices.
- J. Read, analyze, and discuss readings as they relate to writing assignments.

AED42.20 - Literacy Skills for General Education Development (GED) Success

- A. Achieve 1-to-5-point increase in the post CASAS evaluation scores
- B. Apply the elimination process when taking a multiple-choice exam
- C. Write a 300-500 word extended response on an assigned topic with a clear thesis, logical support, specific details, and examples
- D. Analyze, evaluate, and determine proper use of standard American English grammar, sentence structure, punctuation, and vocabulary in peer extended responses

AED42.21 - Spanish Literacy Skills for General Education Development (GED) Success

- Achieve 1-to-5-point increase in the post CASAS evaluation scores
- Apply the elimination process when taking a multiple-choice exam
- Write a 300-500 word extended response on an assigned topic with a clear thesis, logical support, specific details, and examples
- Analyze, evaluate, and determine proper use of standard American English grammar, sentence structure, punctuation, and vocabulary in peer extended responses

AED42.22 - Supplemental General Education Development (GED) Math

- Achieve 1-to-5-point increase in the post CASAS evaluation scores
- Use the calculator to calculate percent
- Use charts and graphs to identify the mode
- Apply algebraic equations to solve word problems

AED42.23 - Spanish Supplemental General Education Development (GED) Math

- A. Achieve 1-to-5-point increase in the post CASAS evaluation scores
- B. Use the calculator to calculate percent

- C. Use charts and graphs to identify the mode
- D. Apply algebraic equations to solve word problems

AED42.25 - Supervised Occupational Skill Development

- A. Develop skill sets in alignment to specified CTE standards
- B. Practice and perform CTE competencies as designated by supervising instructor
- C. Complete a summary evaluation of skills attained or knowledge acquired

AED42.98 - College Writing Support

- A. Recognize parts of speech and their varied forms
- B. Identify verb tenses and their functions
- C. Recognize properties of sentences and relationships between them
- D. Identify the structure, meaning and purpose of written compositions
- F. Write an essay utilizing an introduction and conclusion
- G. Demonstrate critical engagement with outside sources
- H. Write a multi-paragraph essay with specific details, examples, and illustrations to fulfill a purpose.
- I. Write an essay that has a specific focus or purpose, in response to specific writing prompts and course assignments.
- J. Employ the writing process in order to understand and complete a writing task.

AED42.99 - Pre-Algebra Skills

- A. Perform basic operations (add, subtract, multiply, divide) with integers, fractions, decimals, polynomials, and radicals
- B. Evaluate exponents, roots, and absolute value
- C. Calculate the perimeter and areas of basic geometric shapes
- D. Plot linear equations using a function table
- E. Solve expressions with one variable
- F. Create, analyze, and interpret real world situations using concepts of proportional reasoning. (Including ratios, rates, proportions, percent, geometry and measurement and linear relationships)
- G. Communicate mathematical thinking with appropriate use of mathematical notation and vocabulary
- H. Develop an initial conceptual understanding of different uses of variables and integers

AED48.01 - Vocational English for Work

- A. Define widely used vocational terms
- B. Write class related vocabulary in complete sentences.
- C. Label the parts of a sentence
- D. Demonstrate discussions on a vocational topic.
- E. Write an authentic summary paragraph.
- F. Analyze shortlist of potential vocational pursuits.

AED48.05 - College English Skills

- Demonstrate use of a writing process to write a complete essay.
- Employ the Writing Process in order to understand and complete the writing task.
- Write a paragraph for a specific purpose, in response to specific writing prompts and course assignments.
- Write a short essay in response to specific writing prompts and course assignments.
- Adhere to the conventions of standard written English

AED49.01 - Preparatory Math

- Demonstrate the correct use of mathematical symbols, notations, and syntax.
- Employ number sense and appropriate cognitive techniques with regard to:
Addition/multiplication tables
Perfect squares
Estimation

Quantitative literacy

- Interpret real world situations using concepts of geometry, ratios, rates, proportions, and measurement tools
- Perform calculations with whole numbers, fractions, decimals, and percent (Without the use of a calculator) and understand the relationship between them.

AED49.02 - Vocational English as a Second Language

- Draft a clear and coherent summary of an authentic text in paragraph form
- Give a verbal account of an experience in a vocational setting
- Retell the main points of a presentation on a vocational topic
- Create a daily planner
- Formulate an action plan to deal with a problem in a vocational setting

AED60.01 - Citizenship I

1. Demonstrate accuracy when responding to hundred civics questions.
2. Read interrogative sentences, with few errors, related to the U.S. Constitution, government, geography, symbols and holidays.
3. Write dictated sentences, with minimal errors, based on U.S. history, government, geography, symbols and holidays.
4. Demonstrate how to fill out Form N-400 Application for Naturalization online or in paper form.
5. Prepared to speak and answer the USCIS officer during the eligibility interview and citizenship test.

AED90.01 - Introduction to Energy Surveying

- Identify the evaluation procedure, steps and protocols required for accurate energy data collection
- Demonstrate the correct and safe use of various diagnostic tools and equipment
- Describe the proper procedures when using tools and equipment
- Demonstrate knowledge of OSHA safety standards

AED90.02 - Basic Electricity and Wiring Fundamentals

- Following proper procedures and observing OSHA safety protocols. Hands on wiring skills will be evaluated based on industry set standards.
- Students will take weekly quizzes, and final exam to demonstrate knowledge.
- Participants will accurately demonstrate correct wiring and installation techniques and safe use of various meters, diagnostic tools and equipment.
- Students will accurately answer questions on basic electrical theory and electrical practices and codes.

AED90.03 - Intro to Lighting Retrofits

- Accurately answer questions on retrofit procedure, steps, analysis, components, and safety protocols required in the lighting retrofit trade.
- Accurately demonstrate correct and safe use of various lighting diagnostic tools/equipment
- Identify the electrical tools required during lighting retrofit activities in the lab and during real-time practice retrofits

AED90.04 - Introduction to Automotive Tools and Equipment

- A. Demonstrate the use of appropriate personal protective equipment
- B. Demonstrate the ability to properly repair damaged threads
- C. Identify the common automotive hand tools
- D. Demonstrate the proper use of machine tools
- E. Differentiate between metric and standard fasteners
- F. Demonstrate the proper use of handheld cutting and resurfacing tools
- G. Produce a common automotive hand tool

AED90.05 - OSHA-10 Training

1. Accurately answer questions on personal protective equipment, material handling, storage, and disposal.
2. Accurately demonstrate correct and safe use of various lighting diagnostic tools/equipment
3. Identify unsafe conditions and take corrective actions

- 4. Prepare incidents reports using OSHA standard formats
- 5. Utilized effective, safety-enhancing workplace practices

AED90.06 - Math Support: Statistics

- A. Identify and compute interpret basic statistics
- B. Solve application problems using sampling and distribution
- C. Interpret confidence interval
- D. Determine the validity of a statement using hypothesis testing
- E. Evaluate and apply basic statistics to everyday situations

AED90.07 - Math Support: College Algebra

- A. Comprehend the properties of linear and nonlinear relations
- B. Identify and solve linear quadratic and higher order equations using technology or appropriate methods
- C. Explore and analyze linear and nonlinear relations and functions, using technology
- D. Construct graphs of higher degree polynomial functions
- E. Construct and graph higher order rational functions
- F. Evaluate, solve and apply linear and nonlinear relations

AED90.08 - Solar Energy

- 1. Demonstrate an understanding of the ability required for safety procedures when working with alternative current (AC) and direct current (DC) circuits and photo voltaic (PV) systems with focus on safety.
- 2. Demonstrate the ability to differentiate between solar radiance and solar irradiation. Calculate the difference between solar time scale and the standard time scale.
- 3. Demonstrate the ability to discuss considerations in determining the suitability and condition of existing roofing, structural systems, and electrical systems and equipment.
- 4. Demonstrate the ability to identify the relationship between PV cells, modules, arrays and determine the electrical output of similar PV devices connected in series and parallel.
- 5. Demonstrate the ability to differentiate between inverters and power conditioning units and identify the electrical code, regulations, and recommendations applicable to PV systems.
- 6. Demonstrate the ability to assemble solar panels.
- 7. Perform mechanical and electrical integration.

AED90.09 - Solar Panel Installation

- 1. Demonstrate the require safety protocol procedures when working directly with a photovoltaic (PV) systems.
- 2. Demonstrate the ability to differentiate between solar radiance, calculate the differences between solar time scales, and collect and analyzed solar radiation extrusive data.
- 3. Demonstrate the ability to recognize the function of all components of a PV system, as well as of all the electrical and non-electrical quantities involved.
- 4. Demonstrate the ability to discuss considerations in determining the suitability and condition of existing roofing, structural systems, and electrical systems and equipment.
- 5. Demonstrate the ability to identify the relationship between PV cells, modules, arrays and determine the electrical output of similar and dissimilar PV divices.

AED90.37 - Launching a Small Business

- 1. Describe planning steps for launching a small business.
- 2. Identify local, state, and federal small business resources.
- 3. Identify the components of a business plan.
- 4. Identify funding and investment options available to finance a small business.
- 5. Identify differences between licenses and permits.
- 6. Describe the role of local, state, and federal resources and identify the assistance they provide.

AED90.37S - Launching a Small Business (Spanish)

- 1. Describe planning steps for launching a small business.
- 2. Identify local, state, and federal small business resources.

- 3. Identify the components of a business plan.
- 4. Identify funding and investment options available to finance a small business.
- 5. Identify differences between licenses and permits.
- 6. Describe the role of local, state, and federal resources and identify the assistance they provide.

AED90.39 - Social Media for Small Business Owners

- 1. Describe marketing skills for Small business owners
- 2. Explain why marketing helps a small business
- 3. Identify free marketing platforms and prices for paid advertisement through social media
- 4. List which steps are necessary for executing a marketing campaign.

AED90.39S - Social Media for Small Business Owners (Spanish)

- 1. Describe marketing skills for Small business owners
- 2. Explain why marketing helps a small business
- 3. Identify free marketing platforms and prices for paid advertisement through social media
- 4. List which steps are necessary for executing a marketing campaign.

AED90.41 - Introduction to Small Business Finances

- 1. Describe cash flow basics and techniques to keep record of monies
- 2. Identify financial statements
- 3. Identify principles of financial strategies and time value of money
- 4. Define basic personal financial literacy
- 5. Identify when accounting systems are growing and when to hire a CPA or purchase an accounting software
- 6. Identify important records that must be kept by a small business such as, legal documents, sales transactions, and purchasing transactions

AED90.41S - Introduction to Small Business Finances (Spanish)

- 1. Describe cash flow basics and techniques to keep record of monies
- 2. Identify financial statements
- 3. Identify principles of financial strategies and time value of money
- 4. Evaluate basic personal finances
- 5. Identify when accounting systems are growing
- 6. Identify important records

AED90.43 - Growing a Small Business

- 1. Create and describe plans for growing a small business
- 2. Identify organizations and resources that will assist with developing plans of business growth
- 3. Define competitive strength through SWOT Analysis
- 4. Identify business opportunities
- 5. Identify core competence

AED90.43S - Growing a Small Business (Spanish)

- 1. Create and describe plans for growing a small business
- 2. Identify organizations and resources that will assist with developing plans of business growth.
- 3. Define competitive strength through SWOT Analysis
- 4. Identify business opportunities
- 5. Identify core competence

FSAP72.01 - Introduction to Sprinklers

- A. List fire sprinkler systems, codes and standards, sprinkler fitter careers, responsibilities of the employee, human relations, and employer and employee obligations, and tools

- B. Demonstrate knowledge of basic fire sprinkler systems and use of code books
- C. List characteristics of common sprinklers, above and belowground pipe, including wall thickness (C-Factor), sway bracing, hangers, control valves, check valves, water flow alarms and fire department connections

FSAP72.02 - Fire Sprinklers Hand and Power Tools

- A. List fire sprinkler systems, codes and standards, sprinkler fitter careers, responsibilities of the employee, human relations, and employer and employee obligations, and tools
- B. Demonstrate knowledge of basic fire sprinkler systems and use of code books
- C. List characteristics of common sprinklers, above and belowground pipe, including wall thickness (C-Factor), sway bracing, hangers, control valves, check valves, water flow alarms and fire department connections

FSAP72.03 - Fire Sprinklers Construction Plans

- A. List 6 types of drawing sets
- B. Identify use of scale, lines of construction, abbreviations, symbols, keynotes, and gridlines
- C. Identify plan locations and dimensions
- D. Demonstrate drawing an abbreviated sprinkler plan

FSAP72.04 - Fire Sprinklers Steel Pipe

- A. Identify steel pipe materials, safety, tools, cutting, threading, fittings, grooving, flanges and take-outs
- B. List the materials and fittings, safety considerations, cutting, threading and grooving of steel pipe
- C. Calculate the lengths between fittings

FSAP72.05 - Fire Sprinklers CPVC

- A. List CPVC materials including hangers, bracing, and supports
- B. Describe CPVC safety, cutting, chamfering, cleaning, and joining
- C. Define hydrostatic testing criteria
- D. Apply CPVC pipe properly and to code

FSAP72.06 - Fire Sprinklers Copper Tube Systems

- A. List copper tube characteristics, fittings, cutting, bending, soldering, brazing, supports and couplings
- B. Demonstrate designing, cutting, bending, soldering, and brazing of copper tube
- C. Identify spacing and coupling considerations

FSAP72.07 - Fire Sprinklers Underground Pipe

- A. List steel pipe hazards, guidelines, trenching, bedding, backfilling, piping, restraints, backflow, hydrants and related appurtenances, testing, inspections and chlorinating
- B. Demonstrate identifying materials for underground pipe and safety considerations
- C. Install an underground pipe to standard
- D. Complete an underground test certificate

FSAP72.08 - Fire Sprinklers Residential

- A. Define the residential fire sprinkler trade
- B. Perform basic math functions
- C. Identify system design configurations, tool, materials and installation overview, and special system considerations
- D. Demonstrate residential installation of fire sprinklers
- E. Identify material, equipment and codes requirements, and safety considerations
- F. Demonstrate competence using CPVC and copper pipe and fittings
- G. Identify residential designs

FSAP72.10 - Fire Sprinklers Flanged, Grooved, and Plain End Pipe

- A. List general purpose valves, indicating valves, globe valves, and check valves
- B. Demonstrate an installation of service of outside screw and yoke (OS&Y) valves and butterfly grooved valves

FSAP72.11 - Fire Sprinklers General Trade Math

- A. Solve basic math principles and problem solving when working with fire sprinklers
- B. Convert the English and metric systems
- C. Identify temperature considerations, 45-degree offsets and tank volume, centering heads using the target, square offset and geometric methods
- D. Demonstrate an overview of components and systems

FSAP72.12 - Fire Sprinklers Shop Drawings

- A. List structural symbols, cut length and pipe size
- B. Identify material necessary for an installation, including standard sprinkler symbols
- C. Interpret a legend and calculate the number of sprinklers to be used, orifice size, temperature rating
- D. Calculate the square footage and the sprinklers required for a given area
- E. Identify and match the National Fire Protection Association standards to the title of the shop drawing
- F. Demonstrate drawing an abbreviated sprinkler plan

FSAP72.13 - Standard Spray Fire Sprinklers

- A. List standard sprinklers
- B. Identify types of occupancies, types of construction, standard coverage upright, and pendent sprinklers
- C. Demonstrate determining the maximum coverage area of standard sprinklers for various occupancies and spacing using small room rule

FSAP72.14 - Fire Sprinklers Wet Pipe Systems

- A. Identify wet pipe systems, flow switches, tamper switches, pressure switches, fire department connections, and hose stations
- B. Demonstrate installation of a tamper switch
- C. Demonstrate installation of a flow switch
- D. Demonstrate installation of the retard device

FSAP72.15 - Fire Sprinklers Dry Pipe Systems

- A. List dry-pipe system operations
- B. Identify dry-pipe trim and valve components and quick-opening devices
- C. Describe pitching dry-pipe systems and auxiliary systems
- D. Demonstrate installing, setting, and adjusting an air maintenance device and an accelerator

FSAP72.16 - Fire Sprinklers Preaction and Deluge

- A. Identify deluge systems, preaction systems, firecycle systems, package trim and packaged systems
- B. Demonstrate installation techniques and troubleshooting
- C. Demonstrate use of package trim and packaged systems
- D. Describe installation techniques and performing troubleshooting

FSAP72.18 - Fire Sprinklers Water Supplies

- A. List water supply types, water storage, water mains, backflow preventers, and meters
- B. Identify tests and reports needed for water supply systems
- C. Demonstrate flow test procedures and graph plots for static and residual pressure

FSAP72.19 - Fire Sprinklers Fire Pumps

- A. List pumps and drivers, controller, and sensing lines
- B. Complete a project requirement checklist
- C. Demonstrate installation and startup of fire pump
- D. Describe implementing testing, maintenance, and troubleshooting

FSAP72.21 - Fire Sprinklers System Layout

- A. List system design, pipe sizing, and flow characteristics

- B. Compute hydraulic calculations
- C. Demonstrate sizing up of pipe

FSAP72.23 - Fire Sprinklers Extinguishing Systems

- A. Identify exposure systems, water spray systems, foam systems, carbon dioxide systems, and Halon systems
- B. List flow control valves, Halon alternatives, dry chemical systems, auxiliary alarm systems and local alarms, fire extinguishers, and water mist suppression
- C. Demonstrate operation of extinguishing systems including exposure systems, water spray systems, and foam systems

IWAP40.05 - IW - WELDING III

- A. Demonstrate how to safely fuse-weld heavy gauge ferrous metals using low hydrogen electrodes and flux cored wire electrodes
- B. Demonstrate the capability of passing the root and face bend test to the American Welding Society standards
- C. Able to describe and identify basic joint designs and weld metallurgy

IWAP40.07 - FIW - ORIENTATION

- A. Explain important elements of safety on the job
- B. Accurately measure materials on the job
- C. Identify basic hand tools used by Ironworkers
- D. Student can Describe the important skills and tools used for rigging and working around cranes
- E. Identify four types of welding processes that ironworkers use
 1. Set up and break down oxygen fuel cutting and welding equipment
 2. Identify how the leads are connected for shielded metal arc welding
- F. Describe the important skills and tools associated with the structural ironworker

IWAP40.09 - IW-Gen Rigging

- Demonstrate and apply the proper application of fiber line, steel cable, and chain in various tackle and lever combinations used in raising, transporting, and storing heavy loads
- B. Identify and demonstrate the various types of rigging equipment and procedures used in the ironworkers' trade

IWAP40.10 - IW-Welding I-Reinforcing

- Demonstrate basic understanding of the structure of ferrous metals and their reactions to heat.
- Demonstrate the proper knowledge and usage of the equipment and materials used in shielded metal-arc, gas shielded-arc, and oxy-acetylene welding.
- Identify the size of a bar in standard or metric numbers
- Identify each of the marks on the piece of reinforcing steel

IWAP40.11 - IW-Welding II-Reinforcing

- Demonstrate basic understanding of the structure of ferrous metals and their reactions to heat
- Demonstrate basic skills and knowledge in the handling of equipment and materials employed in the use of shielded metal-arc, gas shielded-arc, and oxy-acetylene welding.
- Demonstrate the applications of both oxy-acetylene and arc welding and the appropriate times to use each

IWAP40.12 - Reinforcing Iron I

- A. Interpret the standard codes, code classifications, plans, schedules, charts and specifications in common use by the ironworker
- B. Demonstrate the contraction techniques used in reinforcing concrete members with steel
- C. Use of bar supports, placement of reinforcing iron in the structural members of buildings and in structures other than buildings
- D. Demonstrate the general principles of bar splicing and welding, post tensioning and pre-stressing

IWAP40.15 - IW - Post Tension I

- Demonstrate proper installation of multi-strand post-tension bar system, including stressing, grouting, and inspection
- Properly assemble stressing equipment
- grouting operation including proper operation of various types of grouting equipment, checking for blockage prior to grouting, and will be able to explain proper mixing and pumping procedures
- Demonstrate knowledge of the types and causes of various problems that can arise during the installation, stressing, and grouting of the various types of post-tensioning systems

IWAP40.21 - Structural Steel I

- A. Read structural steel drawings
- B. Safely unload, handle, and store materials
- C. Safely erect columns and beams and install joists, joist girders, and trusses
- D. Plumb, align, and bolt up structural steel
- E. Make structural connections

IWAP40.22 - Cranes

- A. Demonstrate the performance of various processes related to structural steel
- Demonstrate an understanding of the recommended building procedures in structural steel construction
- C. Demonstrate the proper way to receive and store materials
- D. Define blueprint and other drawings related to structural steel

IWAP40.26 - IW-Metal Building Erection I/Foreman Training

- B. Describe pre-engineered metal buildings including the history and trends
- C. Safely unload and store material
- D. Erect primary and secondary structural framing systems including girts and purlins
- E. Install insulation, wall materials, metal roofing, flashing, gutter, trim and accessories
- F. Repair common metal building problems and failures
- G. Re-roof and perform other metal building renovations

IWAP40.50 - Mixed Base - Reinforcing

- A. Demonstrate the understanding of the specifications that constitute a safe and healthful working environment under OSHA
- B. Demonstrate the understanding of the rights and obligations that the OSHA act imposes
- C. Demonstrate the understanding of construction blueprints commonly used with emphasis on its function and interpretation
- D. Demonstrate basic math skills and apply these skills in solving typical problems that are apt to arise in the construction trades

IWAP40.53 - Detailing / Reinforcing Iron

- A. Demonstrate a basic knowledge of the job performed by the detailer of reinforcing iron
- Read and interpret the communication instruments of the detailer such as:
 1. placing drawings
 2. bar lists
 3. bar schedules
- C. Able to utilize instruments that guide the fabrication of reinforcing bars in the shop and their proper placement in the field. Assemble documents from the source information is derived
- Interpret mechanical drawings, math computation skills, and blue prints

IWAP40.55 - Foreman Training

- A. Informed of a construction worker's awareness regarding on-the-job hazards
- B. Demonstrate the understanding of OSHA standards and the many aspects of safety, compliance, scheduling, jurisdiction, and the labor law

- C. Demonstrate the understanding of the duties of the ironworker foreman, general foreman, and superintendent's and forklift operation
- D. Demonstrate how to properly and safely erection and disassemble scaffolding
- E. Demonstrate safe operation of a forklift and ability to comply with all OSHA regulations regarding the safe operation both on and off of a forklift

IWAP40.56 - IW-Ironworker History Reinforcing

- A. Demonstrate basic knowledge of the Ironworkers history and profession
- B. Able to list events leading up to the birth of the Ironworker union

IWAP40.60 - Structural Arch Orn I

- A. Construct curtain walls, window walls, sloped walls and skylights
- B. Construct storefronts, entranceways, and cable walls
- C. Install glazing systems, glass rails, and apply sealants
- D. Able to test curtain wall and window wall systems

IWAP40.61 - Structural Precast Concrete / Qualified Rigger

- A. Coordination of task elements needed in the staging and economical erection of a precast concrete building
- B. Apply pre-construction planning
- C. Demonstrate understanding of field considerations for connections
- D. Demonstrate understand transportation of precast concrete to worksite
- E. Demonstrate proper rigging techniques of precast concrete
- F. Safely and properly handle and install precast concrete
- G. Demonstrate proper post-installation inspection of pre-cast concrete

IWAP40.63 - IWS - Structural Lead Hazzard

- A. Explain the history of lead, its uses and the health effects caused by lead exposure.
- B. Identify regulations and sampling methods related to lead
- C. Explain hazard communication regulations and workers legal rights related to lead.
- D. Demonstrate appropriate use of personal protective equipment and describe work methods on steel structures when lead may be present
- E. Describe general site safety, safe work practices, and confined space entry as related to working on construction sites where there is a possibility of lead exposure

IWAP41.03 - IW Reinforcing III

- A. Outline the history of reinforcing and the manufacturing of reinforcing steel.
- B. Identify reinforcing tools, ties and safety practices
- C. Identify structural forms associated with placing reinforcing steel
- D. Demonstrate how to bend, tag, mark and fabricate reinforcing steel
- E. Demonstrate how to safely unload, handle and store reinforcing steel
- F. Read engineering and placing drawings
- G. Install bar supports
- Place reinforcing in footings, walls, columns, beams and girders, and in joists and slabs
- Describe how to reinforce highway and airport pavement and how to use bar splicing and mechanical couplers

IWAP41.04 - IW Architectural III

- A. Demonstrate and install swing doors, door closers, sliding doors, mall fronts, revolving doors, and rolling service doors
- B. Demonstrate and install anchors and fasteners, stairs, ladders, catwalks and grating
- C. Demonstrate and install fence, guard rails, and detention systems

- D. Demonstrate and install miscellaneous architectural and ornamental work

IWAP41.05 - IW Architectural II

- A. Construct curtain walls, window walls, sloped walls and skylights
- B. Construct storefronts, entranceways, and cable walls
- C. Install glazing systems, glass rails, and apply sealants
- D. Test curtain wall and window wall systems

IWAP41.06 - IW Structural Steel II

- A. Safely install metal decking and sheeting
- B. Explain how to erect bridges, towers, wind turbines, clear span, and amusement park structures
- C. Use composites in structural erection
- D. Read structural drawings

IWAP41.07 - Post-Tension II

- Apply the principles and theories of post-tensioning and be able to identify the components of monostrand tendon systems and barrier cable systems
- Use the tools, equipment and procedures to safely unload, handle, layout, install, stress, grout and finish each type of post-tensioning system; including systems used in aggressive and non-aggressive environments
- Apply proper procedures for detensioning and performing lift-offs on post-tensioning systems
- Troubleshoot and repair post-tensioning systems and equipment on the job.
- Install and stress post-tensioned barrier cable systems

IWAP41.08 - IW-Post Tension III

- A. Apply the principles and theories of post-tensioning and be able to identify the components of multi-strand and bar tendon systems
- B. Use the tools, equipment and procedures to unload, handle, layout, install, and stress each type of bonded post-tensioning system
- C. Use the tools, equipment and procedures to grout and finish each type of bonded post-tensioning system
- Troubleshoot and repair post-tensioning systems, stressing equipment, and grouting equipment on the job

IWAP41.09 - IW - Extension and Review

- Demonstrate proper weld and cut using oxyacetylene
- Demonstrate proper weld using the shielded metal arc welding process
- Demonstrate proper weld using the flux cored arc welding process
- Demonstrate proper weld using the gas tungsten arc welding process