



APPRENTICE PROGRAM

**REVISED
OCTOBER
2022**



Prepare • Respond • Impact

SALT LAKE CITY FIRE DEPARTMENT PROFESSIONAL QUALIFICATIONS STANDARD

APPRENTICE FIREFIGHTER

The Salt Lake City Fire Department Apprentice Program is a two-year program designed to accomplish the following three goals: First, to further the knowledge, education and practical skills of the newly hired firefighter; second, to establish, monitor and test the level of proficiency required by the Salt Lake City Fire Department for newly hired firefighters; and third, to prepare the newly hired firefighter to function as safely and as efficiently as possible during fire ground situations.

The Apprentice Program represents the **minimum standard** required to function as a firefighter for the Salt Lake City Fire Department. In no way does it reflect or present the entire wealth of knowledge and/or training available to the apprentice and his/her crew. This program is designed to be "open-ended." This means that at any time the Joint Apprentice Training Committee (JATC) may add, update, or alter the requirements, study material and testing procedures. The apprentice is **strongly** encouraged to study all firefighting related material, especially but not limited to those books, chapters and texts cited within the program manual. General based information should be referenced out of the **IFSTA Essentials of Firefighter I & II** unless specified in the Reference area at the end of each section. When testing, if the question specifically indicates according to the SLCFD P&P, the answer should be based according the standards of Salt Lake City Fire Department. All tests require a minimum passing score of 80%. Veteran firefighters and company officers also have a vast amount of experience and knowledge that should be sought out.

It is the desire and purpose of the JATC to develop, maintain and distribute the necessary information to all apprentice firefighters and their respective crews to accomplish these goals. If we can be of any assistance, do not hesitate to call.

AS AN APPRENTICE, YOU are required to seek out the necessary study material, information, and drills to meet the standards outlined within the program. You must approach your station officer (or his/her appointee) and request drills, training sessions and pass-off appointments. You are responsible for completing in-station quizzes, submitting monthly shift logs, and attending quarterly testing. You must organize your time and materials efficiently. You are put on notice and cautioned that all or part of the following standards and requirements may be included in written and/or performance evaluations.

January - Odd Year

Incident Command Systems

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

1. Completed the online **NIMS 200** courses that are a department-wide requirement (NIMS 100 & 700 should have been completed in Recruit School as part of the Wildland certification. If you have not completed the 700, you will need to include it as well). All certificates must be submitted to the Training Division. Website is: <http://www.usfa.dhs.gov/nfa/nfaonline/>
2. Identify the three common types of incidents within the Incident Command System
3. Identify the five types of incidents developed by the National Incident Management System (NIMS)
4. Describe the three organizational levels of command
5. Identify the three tactical priorities in order of importance
6. Identify the two Operational modes
7. List and describe the eight functions of command
8. Describe establishing command
9. Who can assume command?
10. List and describe the three command options
11. Identify the command staff positions within the ICS
12. Identify the General staff positions within the ICS, and briefly describe what each position is responsible for, and what their title is
13. Describe the purpose of a staging area.
14. Describe what Divisions and Groups are within ICS and when they should be used.
15. Completed and submit the following:
 - Draw a basic ICS Organizational Chart
 - Draw an Expanded ICS Organizational Chart
 - Complete (through simulation) an “Assumption of Command”
 - Give an “Initial Report” (through simulation)
 - Complete a formal “Transfer of Command” (simulated)

Have an understanding and working knowledge of SLCFD Policy 04-08, Personal Accountability.

References:

IFSTA Essentials 7th Edition – Chapter 27

NIMS Consortium Section 1 (Firehome or Resource One)

SLCFD Policies & SOGs

February - Odd Year

Protective Systems

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

Protective Systems

1. Identify the value of protective systems in protecting life and property and why firefighters should understand them
2. Describe the basic functions and components of a fire alarm system
3. Describe the basic types of fire alarm initiating devices and how they operate
4. Describe the basic types of fire alarm-notification appliances
5. Explain the ways fire alarms can be transmitted to a fire department
6. Identify types of sprinkler heads and how they operate
7. Identify types of sprinkler systems and their main components
8. Identify styles of indicating valves
9. Identify standpipe classes and types of systems
10. Describe problems firefighters encounter with standpipe valves in high-rise buildings

References:

IFSTA Essentials 7th Edition – Chapter 22 (pages 991-1010)

SLCFD Policies & SOGs

March - Odd Year

High Rise

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

1. Describe the importance of pre-incident planning as it relates to fire suppression activities.
2. List five (5) key elements of a pre-incident plan
3. Describe offensive and defensive strategies used at fires in the different occupancy types
4. Identify fire extension pathways inside various structures and discuss how to deal with them in fire situations.
5. Identify air paths within a structure and explain how the presence of these paths' dictates fire growth and movement.
6. Demonstrate methods for advancing hose lines to upper floors of multi-story structures.
7. Have an understanding and working knowledge of SLCFD Policies/SOGs 04-28, 04-28A, and 04-28B.

References:

IFSTA Essentials – 7th Ed. (Note: IFSTA 7th Ed. doesn't have a chapter specifically related to High Rise. Seek out the answers to the above outline in Chapters 12, 13, 14, 19, etc.)
SLCFD Policies & SOGs

April - Odd Year

Prevention & Education – Inspection & Investigation

Note: All Apprentices will be required to do a Target Hazard Pre-plan PowerPoint Presentation. This Pre-plan is due by the end of your apprenticeship program, but we encourage you to start on it early and get it out of the way. Contact Gina Bell to get a Target Hazard location assigned to you. Examples of other Presentations can be found on Firehome under the Documents tab in the Pre-Plan folder.

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

Fire Prevention, Inspection & Education

1. Define the term Community Risk Reduction
2. Describe the role of the fire department in fire prevention activities
3. Define the term Pre-incident survey, and what is the purpose
4. Describe the process for conducting a pre-inspection
5. Describe the procedures for conducting a Home Fire Safety Survey
6. List common causes of fire found in a dwelling
7. Describe methods of teaching fire safety to residents of the community
8. Describe the proper procedures for conducting a tour of a fire station
9. Describe the proper methods for presenting a talk on fire safety to community residents

Origin & Cause Investigation

10. Describe the role of the firefighter in fire investigations
11. List common sources of ignition
12. List the fire cause classifications and briefly describe each
13. List the common interior fire patterns

14. List the three types of evidence
15. Describe the importance of maintaining the “chain of evidence”
16. Describe the importance of securing the fire scene
17. Have an understanding and working knowledge of SLCFD Policies and SOGs pertaining in Fire Investigation Response

References:

IFSTA Essentials 7th Ed. - Chapters 15, 20, 22 (pages only related to these topics)
SLCFD Policies & SOGs

May - Odd Year

Swiftwater Awareness with SWR Team – Station 7

Swiftwater Rescue Awareness is designed to give you a brief understanding regarding the specialty of a Swiftwater Rescue Firefighter. In late April, you are responsible to work with your Captain and contact the Station 7 Officer on your platoon to schedule your SWR Awareness day. All apprentices on should be scheduled for the same day. One day for each platoon.

You are also responsible to prepare for your written and practical test that will take place at Training. This will be scheduled by the Training Division Facilitator. It will be added to the Master Calendar and you will receive an Outlook invitation to attend. You must attend on the date scheduled. When planning time off, please look at any upcoming test dates such as this one to make sure you don't schedule the day off.

June Odd Year

Truck Ops - Basics, Aerial Familiarization & Ladders

1. Discuss inventory carried on SLCFD trucks and quints.
2. Discuss truck functions on a structure fire.
3. Demonstrate ability to drive aerial apparatus.
 - Apparatus spatial awareness
 - Forward lane travel and lane change
 - Intersection approach
 - Downhill control
 - Right and left hand turns without travelling out of the designated travel lane
 - Aware of tail swing
 - Consideration of apparatus placement for truck operations
 - Communication with tillerman
 - Ability to back in coordination with tillerman
4. Demonstrate ability to set up aerial and operate aerial ladder.
5. Demonstrate ability to throw ground ladders
 - Single person 24'
 - Two person 24' and 28' beam raise
 - 3 person 35' flat raise
 - 4 person 35' or 40' flat raise
 - 2 person 24' chute raise
 - Throw extension ladder married up with roof ladder for vent operations
6. Discuss general considerations for selecting and placing ground ladders into operation
7. The largest ladder requiring the most personnel should be raised first
8. Always use the proper type and length of ladder
 - Residential occupancies 9' per floor
 - Residential window height 4'
 - Average floor to windowsill height 3'
 - Commercial occupancies 10' per floor
 - Climbing angle of 70 degrees is normally one-fourth the working height
9. Ladders should be placed into the correct position prior to raising
 - Ladder to the windward side of the objective
 - Ladder corners for strength
 - Avoid placing ladders that disrupt hose deployment
 - Avoid openings such as windows and doors
10. Determine the type of raise to be used
 - **Flat vs Beam**
11. Consider overhead obstructions

July – Odd Year

Truck Ops - Utilities & Forcible Entry

1. Utilities- Electrical:
 - Understand how power grids work and how to identify voltage based on insulator size.
 - Know how and what electrical equipment we can shut down and what equipment are off-limits.
 - Be able to locate an electrical panel and shut it down.
2. Utilities- Natural Gas:
 - Understand the physical properties and hazards associated with natural gas
 - Be able to locate and shut-off gas in different size and type of occupancies
 - Understand how the gas distribution system works.
 - Ability to locate roof top equipment that uses natural gas and shut it off.
3. Utilities- Water/Sprinklers:
 - Be able to identify the various types of water shut- offs
 - Be able to locate main and sectional water shut offs and turn them off
 - Be able to locate the sprinkler riser, shut it down and drain it.
4. Discuss forcible entry size up and considerations for access and egress
5. Demonstrate forcible entry with striking and power tools on:
 - Inward swinging door
 - Outward swinging door
 - Garage doors (Discuss different construction types)
 - Through the lock techniques (Discuss identifying different locking mechanisms)
 - Windows
 - Pad locks
 - Fences/Gates

References: Truck Company Operations, 2nd Ed. – Chapters 12, 13 & 14)

August Odd Year Truck Operations – Elevators

1. Discuss elevator policy 04-29A
2. Operate the “Fire Service” controls on an elevator.
 - Phase 1 mode: recall elevator to the lobby.
 - Phase 2 mode: operate elevator from inside car.
3. Understand the different types of elevators and how to identify them.
4. Locate the elevator equipment room and demonstrate how to shut down power.
5. Know the procedure and process to open an elevator hoist way and car door.
 - Know the initial roles and equipment of each firefighter on first arriving engine or truck.
 - Demonstrate actions prior to opening a hoist way and car door.
 - Demonstrate how to use a drop link, side pick, and top pick.

Reference: Truck Company Operations, 2nd Ed. Chapter 7

September Odd Year Truck Operations – Ventilation

1. Understand the various types of horizontal ventilation and how to put them into operation.
 - Natural ventilation
 - Mechanical ventilation
 - Hydraulic ventilation
2. Understand the various considerations and be able to demonstrate techniques for vertical ventilation.
 - Various roofs (IFSTA)
 - Flat roofs
 - Shingled/pitched roofs
 - Tile covered roofs
 - Metal roofs
 - Be able to demonstrate the different diagnostic cuts and their purpose.
 - Ability to select best ladder placement for roof access.
 - Conventional construction
 - Lightweight construction
 - Trenching operations (IFSTA & TCO)
 - Natural construction features
 - Airshafts
 - Skylights
 - Penthouses
 - Roof scuttles
 - Elevator houses
 - Ducting
 - Vent pipes
 - Ventilators
3. Demonstrate or describe how to ventilate in uncommon fire situations
 - Basement fires (IFSTA & TCO)
 - Windowless structures (IFSTA)
 - High rise fires (IFSTA & TCO)

References: IFSTA Essentials pages 518-526 and Truck Company Operations, 2nd Ed. Chapters 15, 16, 17 & 18

October – Odd Month

Truck Ops- Building Construction

1. Understand building construction beyond the 5 types.
 - The rate of burning time.
 - Possible avenues of fire spread.
 - Problems that will have direct impact on efforts to confine the fire.
 - Structural integrity.
 - The time necessary to conduct safe fire ground operations.
 - The severity of the fire.
2. Understand the characteristics of different roof types.
 - Gable Roof-
 - A-frame configuration.
 - Rafters 16 to 24 inches on center.
 - Strengths-Conventional construction uses ridge boards or rafters 2 x 6 or larger.
 - Hazards-Lightweight construction uses 2 x 4-inch trusses with no ridge board is similar in exterior appearance to conventional construction.
 - Hip Roof
 - Like the gable roof lacking A-frame configuration.
 - The ends of the roof terminate in a hip configuration.
 - Strengths-The ridge pole, valley rafters, hip rafters, and places where the rafters cross the outside walls are areas of strength.
 - Hazards-The hazards of hip roofs are similar of those of gable roofs-
 - The presence of 2 x 3 or 2 x 4-inch trusses for rafters will produce similar results when exposed to fire.
 - Bridge Truss Roof-
 - Constructed in 1920s -1940s.
 - Wood truss members built from 2 x 12 lumber.
 - Strengths-Heavy Timber construction= longer burn time. This type of roof fails predictably in sections.
 - Hazards-Strength is dependent on size of lumber and span of trusses. Trusses are under compression and tension and may fail under severe fire conditions.
 - Arch Roof (Bowstring)-
 - Popular type of roof was constructed during the early to mid-1900s.
 - Usually, large 2 x 12 to 2 x 14-inch wooden members.
 - Strengths- Well constructed.
 - When exposed to fire, early structural collapse was not to be of primary concern.
 - Usually fails in sections
 - Hazards-Size and age of the lumber and the span of the arches determine the hazards.
 - Flat Roof (Panelized)-

- Found on wood, masonry, or concrete tilt-up slab buildings.
- Common in the Western United States and consists of four major components=
 - ✓ *Beams (laminated wood or metal)
 - ✓ *Purlins
 - ✓ *2 x 4-inch joists
 - ✓ *1/2-inch plywood decking
- The Strengths -of this roof are its beams, the purlins, and the regions along the building's perimeter.
- The hazards-Four-inch hollow steel pipe can be found supporting the span of the beams. Expect weakening or collapse of these supports with subsequent failure of large portions of the roof under heavy fire conditions.

3. Understand the difference between old and new construction.

- Pre-1933:
 - Unreinforced masonry. Roofs constructed using unconventional methods. Brick walls tend toward collapse if exposed to significant fire.
 - Structures that would use shiplap exterior, balloon, and bungalow construction.
 - Knob and tube wiring.
- 1933 to late 1950s:
 - Building of solid construction, compliant to building codes.
 - Straight or diagonal sheathing on roof.
 - Light weight construction was not used during this period.
- Late 1950s to the Present:
 - Light weight construction present since the 1960s- look for flat roofs, fascia and /or concrete tilt up walls.

References: Truck Company Operations, 2nd Edition Chapter 4 & IFSTA Chapter 3

November – Odd Month

Truck Ops-Salvage

Chapter 11

1. Understand when salvage begins, based on scene priorities.
 - Salvage operations should be an integral part of fire suppression.
 - Forcible entry techniques to reduce damage.
 - Activated sprinkler heads, broken pipes- high priority.
 - Computers, monitors and other electronics.
2. Know what salvage equipment on the Trucks and how to operate them.
 - Wet Vacs
 - Pike pole
 - Floor runners
 - Sprinkler kit
 - Scoop shovel
 - Salvage covers
 - Plastic sheeting/Staple gun
 - Squeegee
3. Be able to size-up a salvage operation on scene that will minimize property damage.
 - Pre-Fire planning
 - Contents
 - Location of Floor drains, Sprinkler shut offs, Vertical shafts, Scuppers, and Stairways
 - Area of fire origin and amount of water present

Suggested training on the above objectives-Chapter 11.

1. Practice folding and deploying salvage covers, single-man and as a team.
2. Practice constructing basins and catch-all's using salvage covers.
3. Look around your home or while on business inspections, find out what property occupant's value most. Things have changed with the computer generation.

Chapter 10

1. Understand the goals of overhaul.
 - To complete the extinguishment of fire with minimum damage to the building and the contents.
 - To determine the most probable cause of fire.
 - To leave insurance adjusters, owners, and occupants a means to determine the loss.
 - To leave the building in a safe as possible condition as possible and to secure it from unauthorized entry.

2. Be able to size-up an overhaul operation that will extinguish fire and minimize property damage.
 - What overhaul operations are necessary.
 - Which areas need to be overhauled.
 - What resources will be necessary.
 - What tasks and to delegate and to which appropriate officers.

3. Identify major safety hazards during the overhaul.
 - Freelancing.
 - Appropriate number of personnel in a specific area.
 - Conditions.
 - Duration.
 - Exertion level of personnel.
 - Weather the overhaul is at the beginning or the end of the shift.

4. Know what tools are available for overhaul and to use them.
 - Axe
 - Pike pole
 - Rubbish hook
 - Power saws
 - Scoop shovel

References: Truck Company Operations, 2nd Edition Chapter 10 & 11

December - Odd Year

HazMat Tech Awareness

HazMat Tech Awareness is designed to give you a brief understanding regarding the specialty of a Hazardous Materials Technician. In November you are responsible to work with your Captain and contact the Station 14 or Station 10 Officer on your platoon to schedule your HazMat Tech Awareness day. All apprentices should be scheduled for the same day. One day for each platoon.

You are also responsible to prepare for your written and practical test that will take place at Training. This will be scheduled by the JATC Committee. It will be added to the Master Calendar and you will receive an Outlook invitation to attend. You must attend on the date scheduled. When planning time off, please look at any upcoming test dates such as this one to make sure you don't schedule the day off.

January Even Year

Fire Behavior

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

1. Describe the parts of the fire triangle and fire tetrahedron
 - Identify the differences between these two models and explain the type of combustion applicable to each model
 - Fire triangle
 - Fire tetrahedron
 - Identify and explain the methods used by firefighters to disrupt the fire triangle and fire tetrahedron
2. Identify basic measurements of heat and temperature.
 - Understand and be able to apply conversion formulas for the basic measurements
 - Fahrenheit
 - Celsius
3. Describe the combustion process
4. Identify three types of heat source.
5. Identify and describe the characteristics of the three fuel types.
6. Define the term *flammable* and/or *explosive limit*.
 - Explain the correlation between proximity to source and both the UEL and LEL
 - Illustrate and explain how this correlation dictates the boundaries of a flammable environment
7. Identify and describe the four stages of fire development.
8. Define the terms *thermal layering* and *thermal balance*.
9. Identify and describe the three fire phenomena.
10. Identify and describe the three components of smoke.
11. Describe and illustrate the three types of heat transfer.
12. Define the term thermal conductivity and identify the physical properties of an object that affect its' conductivity.
13. Identify the five classes of fire.

14. Describe heat release rate and explain how a products HRR affects the fire environment.

References:

IFSTA Essentials 7th Ed. – Chapter 4

February Even Year

Basic Fire Attack

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

1. Define *strategy, tactics, and size-up* as they apply to firefighting.
2. Describe the importance of command, control, and communications at a fire incident.
3. Identify and describe the four methods of fire attack.
4. List the common responsibilities of engine company personnel.
5. List the common responsibilities of truck company personnel at a fire incident.
6. Describe the key considerations for hose line, water supply, forcible entry, ladders, ventilation, and search at a fire incident.
7. Describe offensive and defensive strategies used at a fire incident.
8. Describe the importance of an after-action review of a fire incident.
9. Describe the basic procedures for attacking a fire in a vehicle.
10. Describe types of alternative fuel.
11. Describe concerns to consider when attacking a fire in a vehicle.
12. Demonstrate fire attack on a vehicle fire.
13. Demonstrate advancing a 1 ¾" attack line to a given objective
14. Demonstrate advancing a 2 ½" minute man to a given objective
15. Demonstrate 2 ½" alley lay with corona load

References:

IFSTA Essentials 7th Ed. – Chapter 14
Salt Lake Fire Recruit Academy Performance Standards

March Even Year

Advanced Fire Attack

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

Fire Attack on Flammable Liquid and/or Gas Fueled Fires

1. Identify the role of the firefighter in carrying out assignments as the team leader.
2. Describe offensive and defensive strategies used at fires involving flammable gases and liquids.
3. List and identify the use the different types of foam concentrate available to the fire service.
4. Explain how foam extinguishes/prevents ignition.
5. List and describe the techniques for applying foam to a burning liquid.
6. List safety considerations when applying firefighting foam.
7. Describe the two types of foam systems.
8. Demonstrate setting up a foam line.
9. Demonstrate applying foam with an appropriate technique.
10. Demonstrate setting up a progressive hose lay with lateral hose lines for wildland fire attack.

References:

IFSTA Essentials 7th Ed. – Chapter 18
SLCFD Policies & Procedures

April Even Year

Search & Rescue

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

1. Identify the necessary tools required to safely perform a search of a building.
2. Define the term primary search.
3. Define the term secondary search
4. Identify Tactical Benchmarks associated with search
5. Identify the five search priorities in order of performance.
6. Demonstrate proficiency in a search and rescue operation (2-person evolution)
7. Demonstrate proficiency in the following methods of TIC assisted search
 - Continuous
 - Point to Point
 - Directed
8. Demonstrate proficiency in the following positions for an Oriented Man search
 - Oriented Man
 - Searcher
9. Describe three emergency procedures for firefighter safety and survival.
10. Describe seven methods of victim removal.
11. Demonstrate methods for victim removal from above grade
 - Conscious victims over ladders (Ground and Aerial)
 - Unconscious victims over ladders (Ground and Aerial)

References:

IFSTA Essentials 7th Ed. – Chapter 10

May Even Year

Safety & Survival/RIT

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

Firefighter Safety & Survival

1. Describe the need for a fire department safety committee.
2. List the responsibilities of an incident safety officer.
3. Describe the purpose of a fire department wellness program.
4. Define the terms *accountability officer* and *fireground rehabilitation*.
 - Accountability Officer
 - Fireground rehabilitation
5. Describe methods of limiting injuries to firefighters during response and return from emergency incidents.

Rapid Intervention Teams (RIT)

6. List the required tools for a rapid intervention team.
7. List the on-scene actions of a RIC.
8. Demonstrate setting up a SLCFD RIT cache including decision of placement on the fireground and information gathered from a walk-around.
9. Demonstrate a R.I.C operation for a downed firefighter
10. Demonstrate a knowledge of SLCFD Policies 04-05, 04-06, 04-06A, 04-07, 04-07A, 04-18 and 04-33.

References:

IFSTA Essentials 7th Ed. – Chapters 1 & 10
Salt Lake City Fire Department Policies & SOGs

June - Even Year

Aircraft Rescue Firefighter (ARFF) Awareness

ARFF Awareness is designed to give you a brief understanding regarding the specialty of Aircraft Rescue Firefighter. In May, you are responsible to work with your Captain and contact the Station 12 Officer on your platoon to schedule your ARFF Awareness day. All apprentices should be scheduled for the same day. One day per platoon.

You are also responsible to prepare for your written and practical test that will take place at Training. This will be scheduled by the Training Division Facilitator. It will be added to the Master Calendar and you will receive an Outlook invitation to attend. You must attend on the date scheduled. When planning time off, please look at any upcoming test dates such as this one to make sure you don't schedule the day off.

July - Even Year

Hose & Water Supply

Upon completion of this section, the Apprentice will be able to achieve the following objectives:

Fire Hose – Chapter 12

1. Describe the two classifications (use) of fire hose?
2. Identify types of fire hose construction.
3. Identify the types of couplings used to connect fire hose together and to various appliances.
4. Describe the proper procedures for maintaining, and cleaning of fire hose.
5. Identify the types of hose appliances used by the fire service.
6. Identify the types of hose tools used by the fire service.
7. Identify and describe the different types of hose rolls used by the fire service.
8. Have an understanding and working knowledge of SLCFD Policies/SOGs 08-02, 08-02A, 08-02B
9. According to NFPA 1901-What is the minimum quantity of hose to be carried on standard pumping apparatus?
10. What are the three most common loads for supply hose?

Water Supply – Chapter 13

1. Identify the basic properties of water.
2. Define the term friction loss as it related to water supply.
3. Describe the differences between wet barrel and dry barrel fire hydrants.
4. What are some common tools used when connecting to a fire hydrant?
5. Name the four types of hose clamps.
6. List the factors that affect a hose stream

7. What are some characteristics of smooth bore nozzles?
8. When the nozzle is closed suddenly, a shockwave is produced when moving water reaches the closed nozzle and stops with great force. Identify what this surge is known as and what it has been known to cause considerable damage to.
9. Identify the minimum flow of a master stream.
10. Name the four critical elements of a fire stream.
11. Identify and explain the usage of alternate water supply sources available in Salt Lake City.

References:

IFSTA Essentials Chapter 12 – Fire Hose

IFSTA Essentials Chapter 13 – Hose Operations and Hose Streams

Salt Lake City Fire Department Policies and SOGs

August – Even Year

Fire Streams & Nozzles

Upon completion of this section, the Apprentice will be able to answer the following questions:

1. When water absorbs enough heat to reach its boiling point, the water converts to vapor or steam. This process is called:
2. At _____ degrees Fahrenheit, water expands _____ to its original volume as it turns into steam.
3. Describe the characteristics of the four nozzle types.
4. Characteristics of fog nozzles are:
5. Name two nozzles that deliver a broken stream
6. Name the tree types of nozzle control valves.
7. Identify the three types of fire streams.
8. What are four factors that limit the reach of a hose stream?
9. When water is flows from a nozzle, it creates force in the direction of the stream and equal force in the opposite direction. This is known as:
10. Friction loss in fire hose is increased by the following conditions:
11. Friction loss is overcome or reduced in the following ways:
12. Effective hose streams must meet or exceed the _____.

References:

IFSTA Essentials Chapter 13 Hose Operations & Hose Streams

Even Year September Engine Ops - Preventative Maintenance

THE FIREFIGHTER shall demonstrate the following:

1. Performance of routine tests, inspections, and servicing functions required to assure the operational status of fire department vehicles, including;
 - Battery Check
 - Braking System (including the 7-step brake check)
 - Coolant System
 - Electrical System
 - Fueling
 - Lubrication
 - Oil levels
 - Tire care (including the use of chains, and Insta-chains)
 - Tools, appliances, and equipment both powered/nonpowered
 - Steering systems for range of motion and looseness
 - Engine belts for tightness and wear
 - Apparatus body for damage and condition
2. Record and or report all service functions.
3. Document and send apparatus checks using the online checklist
4. Document and report apparatus issues using the online 201 Form
5. Document and/or order any new, broken, or lost equipment using the 202 Form
6. What is necessary to determine readiness of an apparatus fire pump.

Reference: *IFSTA Pumping Apparatus Driver Operator, 3rd Ed. (Chapter 2)*
SLCFD Apparatus Policies and SOGs

October – Even Year

Engine Ops – Driving & Operations

THE FIREFIGHTER shall demonstrate the following:

1. Possess a valid Driver's License
2. Identify all State and Local laws, including rules and regulations governing the safe driving and operation of the Salt Lake City Fire Department using SLCFD Policies and SOGs.
 - SLCFD Policy # 04-02, 04-04, 04-04A, 05-01, 05-01A, 05-02, 05-03, 05-03A, 05-03B, 05-04, 05-05, 05-05A, 05-06, 05-06A, 05-07, 05-13, 05-14, 05-14A,
3. When given a fire apparatus, identify all gauges and demonstrate their use.
4. When given a fire engine, demonstrate the following driving tests:
 - Road Test
 - Alley Dock (backing in general)
 - Lane Change
 - Serpentine
 - Three Point Turn around
 - Diminishing clearance
 - Braking
 - Parking
 - Utilizing cones and chocks
5. When given an Auxiliary, demonstrate the following driving tests:
 - Road Test
 - Off Road Test
 - Alley Dock
 - Lane Change
 - Serpentine
 - Three Point turn around
 - Diminishing clearance
 - Horse-shoe Course
6. Explain proper positioning for the following:
 - Fire Scene

- Medical scene (Residential vs. Highway)
- Inspections and General operations

7. EVO (when developed and approved)

Reference: *IFSTA Pumping Apparatus Driver Operator, 3rd Ed. (Chapters 3 & 4)*
Salt Lake City Fire Department Policies & Procedures

November – Even Year

Engine Ops – Apparatus Equipped with a Fire Pump

THE FIREFIGHTER shall demonstrate the following:

1. Identify the following conditions that may result in pump damage or unsafe operation. Identify corrective measures.
 - Cavitation
 - Leaking fluids
 - Overheating
 - Unusual noises
 - Vibrations
 - Water hammer

2. Demonstrate the principles of friction loss as they relate to the following:
 - Diameter of hose
 - Length of hose
 - Manner at which hose is laid out
 - Physical condition of hose
 - Pressure
 - Use of Appliances
 - Use of multiple hose lines
 - Use of various nozzles (smooth bore, Combination, Cellar, etc.)
 - Velocity of flow

3. Identify and explain nozzle pressure and flow for all nozzles carried by SLCFD.

4. Show proficiency in the following:
 - Calculate and pump a hand line
 - Calculate and pump multiple hand lines
 - Calculate and pump a master stream
 - Calculate and pump Standpipe

5. Show proficiency in the following:
 - Pump from the booster tank

- Pump from a hydrant (utilizing a changeover)
- Pump from a draft source

Reference: *IFSTA Pumping Apparatus Driver Operator, 3rd Ed. (Chapters 6, 7, 8, 9, 10 & 12)*

December - Even Year

HRT Awareness with HRT Team – Station 5

Heavy Rescue Technician Awareness is designed to give you a brief understanding regarding the specialty of a Heavy Rescue Technician Firefighter. In November you are responsible to work with your Captain and contact the Station 5 Officer on your platoon to schedule your SWR Awareness day. All apprentices on should be scheduled for the same day. One day for each platoon.

You are also responsible to prepare for your written and practical test that will take place at Training. This will be scheduled by the Training Division Facilitator. It will be added to the Master Calendar and you will receive an Outlook invitation to attend. You must attend on the date scheduled. When planning time off, please look at any upcoming test dates such as this one to make sure you don't schedule the day off.