

Weatherford College Fire Academy Physical Fitness Pre Academy Plan

The following information will help you get an idea of what is expected physically for the Weatherford College Fire Academy. The Academy prides itself on being very physically and mentally challenging so that you are prepared to serve. This is done by teaching you to perform physically demanding, time-critical skills in stressful environments.

The recruit physical training program was written to introduce, train and prepare new Oklahoma City Firefighters to be able to perform their job functions at a high level and to create routines and awareness to continue a healthy fitness and lifestyle journey throughout their career.

The physical training program is based off research that shows the need for high levels of aerobic fitness, muscular endurance, and muscular strength to perform firefighting job tasks safely and effectively. The Academy physical training program works in conjunction with the safety standard operating procedures and uses constantly varied, functional movements, performed at high intensity to improve cardiovascular and respiratory endurance, stamina, strength, flexibility, power, speed, and coordination. This is to train and prepare firefighters to be able to perform job functions safely and successfully at high levels.

During the academy, you will be expected to be able to run 1.5 miles under 15min, perform a minimum of 35 bent-knee sit-ups under 2 min, a minimum of 25 push-ups and a minimum of 3 strict pull-ups (palms away). This is the absolute bare minimum for physical fitness in the recruit academy and it is one small step above inadequate. We understand that some of you do not have a fitness or sports background. Regardless, you have decided to enter a career that will demand a very high level of physical fitness. Hard work and dedication in getting physically fit prior to entry to the academy will be necessary and it is completely up to you.

The following pages titled “Theoretical Hierarchy of Fitness” is a **2-month** preparation and fitness plan that includes basic information on nutrition, hydration, mobility, stability, strength, conditioning, rest, and recovery. If followed, this plan can help you build the strength and endurance needed for the beginning of the Recruit Academy. This is just one plan that may be used. There are many fitness plans that can prepare you for the Recruit Academy. With this said, be ready to perform. Do not take this opportunity for granted.

Please Note: There is inherent risk in any physical activity.

Before beginning any new fitness program, it's important to consult with a healthcare professional, particularly if you have any pre-existing medical conditions or concerns. The information provided in this program is intended for general educational purposes only and should not be considered a substitute for professional medical advice, diagnosis, or treatment.

By participating in this fitness program, you acknowledge that you are doing so voluntarily and at your own risk. Always listen to your body and modify exercises as needed to suit

your individual fitness level and capabilities. Stop any exercise that causes discomfort, pain, or dizziness, and seek medical attention if necessary.

The creators of this fitness program are not liable for any injuries or damages that may result from following the exercises or recommendations provided. Remember to stay hydrated, warm up properly before exercising, and cool down afterward.

By proceeding with this fitness program, you accept full responsibility for your own health and well-being.

Theoretical Hierarchy of Fitness

The Theoretical Hierarchy of Fitness includes the following factors:

Nutrition & Hydration. The most essential piece that a firefighter needs to perform their best is an adequate diet and proper hydration. Proper nutrition and adequate hydration will increase firefighters' performance levels.

Mobility & Stability. The ability to maximize range of motion at a given joint while maintaining active muscular control on a joint to redirect force and control movement in the presence of normal muscle flexibility and joint mobility. Considering the kinetic chain, if the body is not able to make a movement, it will compensate with a poor movement elsewhere. This can cause undesired negative issues in the body.

Strength & Conditioning. The ability to use muscles or groups of muscles to apply force and the body's ability to process, deliver, store, and utilize energy and deliver oxygen. This includes core strengthening, resistance training, cardio conditioning, all coupled with functional movements.

Rest & Recovery (Regeneration). A candidate will be physically, mentally, and emotionally exhausted during the Training Academy. Each candidate will need to efficiently use their rest time to recover from the cumulative physical demands of the Training Academy to perform at their best and prevent injury.

Fit. The level that all candidates should aspire to reach. A proper program should be followed to monitor and track personal progress and results.

Using the Fitness Manual

Each day should begin with foam roll stretches and dynamic warm up prior to strength training and conditioning. The guideline is to perform strength training prior to conditioning. Prior to each strength movement, warm-up to the appropriate weight for your ability. Warm-up repetitions do not count towards your total workload.

Be sure to record the amount of weight used, repetitions, and sets/rounds completed, as well as modifications to any exercise. Passive stretching shall be incorporated in the cool down portion after the conditioning workout.

Phases:

There will be 2 phases of this fitness manual. Each phase will consist of four weeks. The exercises shall be progressive. Each week will encompass 4-5 days of workouts. If you receive notice of hire with less than 8 weeks before your start date, just progress through as far as you are able in the given time. If your fitness level is higher than the program provided feel free to continue utilizing your own program.

Before each workout, the participant will be expected to:

1. Hydrate, nourish properly
2. Perform the Foam Roll Sequence
3. Perform a 10-minute Dynamic Warm-up

After each workout, the participant will be expected to:

1. Hydrate, nourish properly
2. Perform Static Stretching at 30 seconds each body part

Rest day: Depending on how your body adjusts to each workout, you have the option to rest and recover. Remember, that everyone has their own limits and boundaries. Rest and recovery are important to keep the body balanced, allow for recovery, and to decrease the potential for overtraining.

Mobility/Stability:

Foam Roll

The foam roll will be used to assist with muscle regeneration and recovery. The more sensitive a certain area is, the more the muscles may require attention. Foam rolling breaks up adhesions and scar tissue formed within the body. It increases circulation to the muscles, which increase the recovery rate. The Training Academy will incorporate foam rolling within the workout program. It can be used during warm-up and it can be used post-workout to assist with recovery. The foam roll series should also be used on days off when you are not planning to workout.

NOTE: If you do not have access to a foam roll, to achieve the same effect, some examples of substitutes are a PVC pipe, a tennis ball, softball, or a lacrosse ball. If you have any further questions, feel free to ask for more alternatives.

Coaching Tips: Breathe slow and controlled. Hold at sensitive areas when necessary.

Calves



Start Position: Sit with foam roll under the back of the calf with opposite leg placed on top. Place hands on the ground behind the body for support. **Procedure:** Using the hands for support, roll

the calves over the foam roll. Move foam roll up and down the entire length of the back of each calf.

*May begin with both calves on foam roll at the same time.

Hamstring



Start Position: Sit with foam roll under the back of the hamstring. Place hands on the ground behind the body for support.

Procedure: Using the hands for support, roll each hamstring over the foam roll. Move foam roll up and down the entire length of the back of both hamstrings.

Gluteus Maximus/Piriformis



Start Position: Sit on the foam roll with hands on ground for support, knees bent, and feet flat on the floor (ie: Place outside of right ankle to the top of the left knee)

Procedure: Roll the area of the glutes over the foam roll.

You Should Feel: Sensitivity to the glutes on the side in which the knee is bent.

Iliotibial Band (IT Band)



Start Position: Lie on the side with foam roll under outside of thigh (IT Band). Place opposite foot flat on the floor in front of the bottom leg.

Procedure: Using arms for support roll the IT band over the foam roll from just above the knee to the hip.

*Advanced: Place top leg parallel with bottom leg when rolling.

You Should Feel: Sensitivity on the side of the thigh.

Quadriceps/Hip Flexor



Start Position: Face down using arms for support in push up position. Place the quadriceps/hip flexor area (in between knee and hip) over foam roll.

Procedure: Using the hands and/or forearms for support, roll the quadriceps/hip flexors over the foam roll from the top of the hip to just above the knee. Alternate legs. *Advanced: use softball, tennis ball, lacrosse ball, etc. in place of foam roll.

Latissimus Dorsi



Start Position: Lie on the side with foam roll under the bottom portion of the armpit.

Procedure: Using the legs for support, roll the upper body over the foam roll. Move it up and down the side from the armpit to the waistline.

You Should Feel: Sensitivity on the side being rolled.

Back



Start Position: Sit with foam roll perpendicular to the lower lumbar spine with knees bent and hands supporting head.

Procedure: Using the feet and legs for support, roll the upper and mid back over the foam roll. Once you feel it under the end of your ribcage, stop. Do not hold on lower back.

*May place hands behind head for support.

You Should Feel: Sensitivity to the muscles of the upper and lower back.

Movement Prep-Dynamic Stretches

Dynamic Stretching has been proven to not only decrease injuries, but also increase performance. The goal of a dynamic warm-up is to increase the heart rate and body temperature to raise the readiness of the muscles and the brain. The movements encompass multiple low intensity

movements and activities in several directions and planes of motion, which target specific body parts for the intended exercise. Each movement should be held for only 2-seconds at a time. It will benefit the participant to familiarize themselves with the movements displayed.

Active Hamstring Stretch



Start Position: Lying on back

Procedure: Keep down leg completely straight and toes pointing up. Keep hip of leg being stretched above 90 degrees at all times. Hold stretch for 2 seconds, relax, and repeat 10 times.

You Should Feel: Stretching groins, hip flexors, glutes, and hamstrings. **Inch**

Worm



Procedure: Start standing. Bend at waist reaching hands to floor. Walk hands to pushup position. Walk feet forward towards hands with knees straight. *Advanced: may walk hands past shoulders if body permits. May wear gloves if necessary.

Coaching Tips: Keep abdominals contracted. Keep knees straight.

You Should Feel: Stretching hamstrings. Core and shoulder stability.

Walking Straight Leg Raise



Start Position: Standing with feet parallel and arms reached forward.

Procedure: Step forward, bring leg out and up to straight leg position. Alternate legs.

Coaching Tips: Stay upright as possible with chest out.

You Should Feel: Balanced in standing leg and stretch in both hamstrings.

Reverse Lunge with Twist



Start Position: Standing.

Procedure: Step backward with left leg into a lunge position. Contract left glute, open your right hand to the right while maintaining your base posture.

Coaching Tips: Keep good posture. Keep front knee over front foot.

You Should Feel: Stretch to hip flexor of back leg and glute and groin of front leg.

Piriformis Stretch



Start Position: Standing or Quadruped.

Procedure: Standing: Stand upright with shoulders down and back: While balancing, bring right foot into left hand and right knee into right hand. Hold for 2-seconds.

Quadruped: Using arms for support, bring lower shaft of left leg perpendicular to midline of body. Shift hips back and down. Hold for two seconds. Alternate legs.

Coaching Tips: Breathe slow and controlled. Keep back straight and chest out.

You Should Feel: A stretch in the piriformis, glutes, and hips.

Strength and Conditioning

The exercises displayed on the following pages may require a higher level of training and quality form. If you do not understand the procedure or are not familiar with any of the movements or exercises, it is highly advised that you DO NOT attempt to perform them. Be sure to ask a qualified professional for assistance. The following list of exercises is a small list. Once good movement is established, begin to load with weight incrementally.

Planks

Fireground Application: All fireground operations.

Start Position: Face down with bodyweight on forearms and toes. The closer the feet, the higher the difficulty.

Procedure: Pull abdominals in towards spine. Maintain for a desired amount of time. Maintain a straight line from the head, shoulders, hips, and heels.

Coaching Tips: Breathe slow and controlled. Keep back flat and arms straight. Do not allow hips to raise or sag throughout the hold.

Front Leaning Rest Position

Fireground Application: All fireground operations.

Start Position: Move to the top of the push-up position. Wrists should be directly under shoulders, body in straight line with head in neutral position and balls of feet on floor. The closer the feet, the higher the difficulty.

Procedure: Pull abdominals in towards spine. Maintain position for a desired amount of time.

Maintain a straight line from the head, shoulders, hips, and heels.

Coaching Tips: Breathe slow and controlled. Keep back flat and arms straight. Do not allow hips to raise or sag throughout the hold.

Hanging Leg Raise

Fireground Application: All fireground operations. Core stability.

Start Position: Hanging from pull up bar with palms facing away from body and thumbs around the bar. Place hands slightly wider than shoulder width apart.

Procedure: Without swinging, keep knees straight and pull feet and legs up so hips are at a 90degree angle in the air. Hold for allotted time or for reps (if unable to do toes to bar in the following workout plan)

Glute Bridges

Fireground Application: Lifting objects such as a hose, ladder, or patients.

Start Position: Lie face up on back on the floor. Bend knees and have feet flat on the floor and arms next to the side.

Procedure: Engage core and push through the heels to lift hips off the floor. Shoulders, hips, and knees should be in a straight line. Hold position for a count of 3-5 seconds and return in control to start position.

Coaching Tips: Should feel movement in hamstrings and glutes. Do not hyperextend back.

Good Mornings

Fireground Application: Lifting objects such as a hose, ladder, or patients.

Start Position: Standing with feet shoulder-width apart and toes pointed forward.

Procedure: Initiate movement with bend at hips. With slight knee bend, bend at the hips as far as you can while pushing hips back keeping back straight and a neutral spine.

Coaching Tips: Should feel movement in hamstrings NOT low back. Do not allow knees to bend into a squat position.

Dead Lift with Kettlebell (or Barbell)*DISCLAIMER*****

If unfamiliar, do NOT attempt without proper instruction, supervision, or guidance.

Fireground Application: Lifting equipment such as a hose, ladder, or patients from the ground.

Start Position: Standing with feet hip-width apart and knees slightly bent. Appropriate weighted kettlebell should be placed between legs with handle lined up perpendicular to body. (If using barbell- same body position but hands will be place just outside of the knees)

Procedure: Contract core and keep shoulders back and down with palms facing body. Shift hips backwards and begin to reach for weight while keeping back flat. Grasp weight, contract hamstrings and glutes to return to standing position while pushing the body weight through the heels. Guide weight back to starting position with the same movement.

Coaching Tips: Keep weight very close to the body throughout the movement. Do not allow back to round during the movement. Keep chest out.

You Should Feel: Working glutes, hamstrings, and back.

Squats (Body weight and weighted)

Fireground Application: Lifting objects such as a hose, ladder, or patients.

Start Position: Standing with shoulder-width apart and toes pointed forward or slightly turned outward. (If using weight- barbell will be placed behind the neck- sitting on traps not directly on the neck. Hands will be comfortably place on either side of the bar outside of the shoulders)

Procedure: Initiate movement with bend at hips. Squat by pushing hips back and down until the thighs are parallel to the floor. Extend hips and knees until legs are straight into neutral position.

Coaching Tips: Push body weight through heels not the toes. Do not allow knees to move forward past the toes. (If using weight- use proper technique. Do NOT lift heavy if you are not experienced with this movement.)

Split Squat

Fireground Application: Lifting equipment or patients from the ground.

Start Position: Standing with shoulder-width apart and toes pointed forward.

Procedure: Step forward with right foot and bend both knees until they are both at 90-degree angles and the back knee is just above the floor. Keep right foot flat on the floor. Push through the front right hip to return to starting position. Repeat for exercise. Alternate legs.

Coaching Tips: Keep chest up and posture upright. Do not allow front knee to move beyond the front foot.

Step Ups (Box Jumps)

Fireground Application: Stepping into the cab of a fire engine, stepping onto a tailboard, climbing stairs.

Start Position: Standing with shoulder-width apart and toes pointed forward.

Procedure: Lift right foot to box step and lean slightly forward. Contract the right glute while bringing the left foot up to the box step. Alternate by stepping down with the leg that initiated the movement. (For workouts following: when it asks for box jumps use a two foot take off, land with soft knees and stand all the way up to full extension with hips and knees, then step down. Do not jump off of the box)

Coaching Tips: Keep upright posture. Maintain hip, knee, and ankle alignment. Keep body weight over midline of front foot.

Push Ups

Fireground Application: Forcible entry, rescue, ceiling breach

Start Position: Push up position with arms directly under shoulders.

Procedure: While keeping core tight, using the arms, lower body to floor so the chest is just above the floor. Control the body as the arms push back up, pushing chest away from the floor.

Coaching Tips: Keep body and core tight and straight.

Wall Walk

Fireground Application: Raising a ladder.

Start Position: On stomach with hands under shoulders and elbows back towards heels. Feet should be facing a wall. Wrists should be directly under shoulders, body in straight line with head in neutral position and balls of feet on floor. The closer the feet, the higher the difficulty.

Procedure: Pull abdominals in towards spine. Move to the top of the push-up position.

Simultaneously walk feet up the wall and hands towards the base of the wall until head is through the arms and eyes are facing the wall. Maintain a straight line from the head, shoulders, hips, and heels. Hold for a desired amount of time.

Coaching Tips: Breath slow and controlled. Do not allow thighs to touch wall. Keep back flat and arms slightly bent. Do not allow hips to raise or sag throughout the movement. If you feel unsafe at any time, bring legs down in a safe manner.

Renegade Rows

Fireground Application: Forcible entry, starting equipment, ceiling breach, and halyard raise.

Start Position: Push up position (up position) with hands directly under shoulders. Each hand should be holding a dumbbell.

Procedure: While keeping core tight and legs spaced for balance, row arm up and back to core of body. Elbow should move towards the ceiling. Hold movement, then slowly lower down to floor. Alternate arms. Control the body as the arms alternate keeping the body inline.

Coaching Tips: Keep body and core tight and straight.

Burpees

Fireground Application: Advancing a hose line from the prone position.

Start Position: Standing.

Procedure: Lower body to floor using the squat position. Quickly push the legs back behind body into a push-up position. Perform a push-up. Immediately return feet under body to the squat position. From the squat position, jump as high as possible. Land in the squat position with knees soft and hips pushed back.

Coaching Tips: Keep a fast pace. Fully extend legs during push-up position. Jump as high as possible with a soft landing. Keep movements controlled.

Pull Ups

Fireground Application: Pulling body over a parapet, pulling body up a ladder, raising a ladder halyard.

Start Position: Hanging from pull up bar with palms facing away from body with thumbs around the bar. Place shoulders slightly wider than shoulder width apart.

Procedure: Without swinging, pull chest to bar. Return to start position.

Coaching Tips: Do not swing body or legs. Fully extend elbows after each repetition.

Push Press-Overhead press (Dumbbells or barbell)

Fireground Application: Lifting ladder or equipment overhead.

Start Position: Stand with feet under the hips. Hold bar or dumbbell in front of shoulders in the front squat position.

Procedure: Engage core, drop hips back and down to a slight squat position and quickly push back up through the starting position. Push bar or dumbbell overhead with hips, knees, and elbows fully extended. Control weight to the starting position.

Coaching Tips: Do not allow knees to move forward past toes. Do not begin pushing the weight overhead until the hips are fully extended.

Thruster (Dumbbells or barbell)

Fireground Application: Lifting ladder or equipment overhead.

Start Position: Stand with feet in the squat position. Hold bar or dumbbell in front of shoulders in the front squat position.

Procedure: Engage core, drop hips back and down to a squat position and quickly push back up through the starting position. Push bar or dumbbell overhead with hips, knees, and elbows fully extended. Control weight to the starting position.

Coaching Tips: Do not allow knees to move forward past toes. Do not begin pushing the weight overhead until the hips are fully extended.

Kettlebell Swing (KB) *DISCLAIMER*****

*DO NOT attempt without proper instruction, supervision, or guidance.

Fireground Application: Equipment manipulation, forcible entry, rescue, etc.

Start Position: Standing with feet hip-width apart and knees slightly bent. Appropriate weighted KB should be placed between legs with handle lined up perpendicular to body. Grasp KB with both hands. Keep arms straight and palms facing body.

Procedure: Contract core, keep back flat, while keeping shoulders back and down. Lower body into squat position by shifting hips back. Pushing the hips forward, stand up and simultaneously raise the arms in front of body until they are parallel to the floor. Without pausing, allow the KB to quickly swing back to the starting position.

Coaching Tips: Do not allow back to round during the movement. Keep chest out. The power should be coming from the glutes and hamstrings.

You Should Feel: Working glutes, hamstrings, and core.

V-Up:

Fireground Application: All fireground operations. Core stability

Start Position: Laying prone (laying on back) with legs straight and arms extended overhead:

Procedure: Contract the abdominals and reach for the toes while raising the legs. Maintain hip, leg and arm extension. Rep is completed with hands touching the feet.

Coaching tip: If unable to touch the toes, knees may bend slightly. The goal is to have the shoulders and torso off the ground leaving only the buttocks in contact with the ground creating a “V” shape.

Dip: Fireground Application: Lifting ladder or equipment overhead, pulling ceiling, forcible entry.

Start Position: Sit on the edge of a stable chair, weight bench or dip bars with arms full extended.

Procedure: Press into your palms to lower yourself until your elbows are bent between 45 and 90 degrees, control movement throughout the range of motion. Push yourself back up until arms are straight.

Coaching tip: If using a chair or dip bench, depending on level of difficulty, place legs either straight out in front of you or bent to 90 degrees. If using a dip bar, you may hang your feet holding the entirety of your body weight.

Notes pertaining to the program:

1. Perform the foam roll series and a functional dynamic warm up for about 10-15 minutes prior to each workout. This will allow the body to get prepared for physical demands. The dynamic warm up coupled with foam roll will greatly reduce the risk of injury.
2. Always pay attention to your body while exercising. If you feel weak, dizzy, nauseous, experience chest pain, joint pain, or have trouble breathing, immediately stop and seek professional assistance.
3. It is very important to progress your workload gradually. Be realistic. Increase your intensity, distance, duration by no more than 10% each week.
4. With all movements and exercises, use proper form. Do not sacrifice your technique and form for ego or heavier weight. This is when the potential for injuries will most likely increase. Learn the proper way to perform a movement or focus on the progressions to your goal. Seek professional assistance if you are not comfortable with a particular exercise.
5. Remember to cool down gradually after each workout. This may include low-intensity aerobic exercise and stretching. The cool down allows the muscles to relax and assists with the removal of metabolic waste for the body to return to its state prior to exercise.
6. Stay hydrated and well nourished. Nutrition and hydration shall be a priority in proper fitness. Without adequate hydration, the body will fatigue more easily, be more susceptible to cramping, unable to regulate body temperature, as well as increasing the risk of heat illnesses. As a general guideline to properly hydrate, approximately 1 would go with a minimum of 125 oz. of fluid replacement per day. I may even stress electrolyte replacement options that may help, (drip drop, liquid IV) a couple of suggestions.. Consumption of food within 30 minutes post-exercise is also highly recommended. This will assist in replenishing the body with nutrients.

Modifications:

If you do not have access to equipment (ex: rower, barbell, pullup bar, etc.)

- On strength training days, weight may be added to the movements (Ex: Squats).
- On conditioning days unless it calls for weight these are bodyweight movements (Ex: squat= air squat)
- Any distance should be modified to a run of the same distance.
- Any weighted exercise can be modified with a bodyweight exercise that is aiming for the same muscle group (push press- push up, etc.)
- Any pulling movement, if you do not have access to a pull up bar perform double the amount of burpees that the workout plan is asking for (ex: 15 pullups = 30 burpees).
- Toes to bar can be modified with either hanging knee raises or v-up.
- If you do not have a jump rope and the workout plan calls for single unders do jumping jacks for the same amount of reps.

Definitions and Descriptions

AMRAP: As Many Rounds/Repetitions as Possible

Conditioning: Designed to use various exercises to simulate firefighting tasks while increasing muscle strength, muscle endurance, and cardiovascular endurance. May use time or sets/reps as factors to complete the entire workout. Since a firefighter's demands, schedule, and task are never the same, it is important to simulate this by training the body as a whole.

Muscular Endurance: The ability for the muscles to exert and remain active for a long period of time at a submaximal force.

Muscular Strength: The muscles ability to exert maximal force in one contraction.

Power: A speed and strength combination that is the ability of the muscles to exert a maximum force in minimal time.

Sets/Rounds: A group of repetitions of an exercise in between rest periods.

Singles: Jump rope passes under feet one revolution per jump.

Repetitions: The number of times each exercise is completed.

Rest: The amount of time in between sets of exercises. This allows muscles time to recover before the next set.

Unbroken: Amount of repetitions able to complete *using good form* without resting. **Weight (Lbs.):** The amount of weight chosen should be challenging for each individual at the number of repetitions the exercise chart states. For example, if it is extremely easy to perform 10 squats with 95 lbs. with good form, adjust the weight by increasing it slowly to make the exercise more challenging. Conversely, if 95 lbs. is too difficult and the exercise cannot be performed with good form, decrease the amount of repetitions or decrease the weight accordingly. *The chosen weight should be challenging yet should still be able to perform the movement safely, with good form, range of motion, and with no pain.*

*****DISCLAIMER*****

Some of the following exercises require more experience, training, and skill.

If you do not understand or are not familiar with any of the movements or exercises, DO NOT attempt to perform them and ask a qualified professional for assistance.