

El Paso Fire Department
Pre-Academy Fitness Training Plan

This document is intended as a general guide for preparing firefighter-recruit candidates for the physical rigors of academy.

Before starting a physical training program it makes sense to write some personal goals. It also makes sense to determine your current fitness level. You can do both using the attached *SMART Goal Worksheet* and the *Fitness Self-Assessment* document.

Each phase of the program has a specific purpose and builds on the previous phase. Two fitness level exercise recommendations are offered based on the results of a self-assessment. If the self-assessment is skipped, the recommendation is to use Fitness Level 1.

Training Objectives

Phase I- Establish aerobic base and build core strength

Phase II- Improve aerobic endurance and build muscular endurance

Phase III- Challenge aerobic capacity and continue muscular endurance work

Phase I

Training Objective – Establish an aerobic base and build core strength.

Aerobic Training – Aerobic training is any exercise (running, cycling, swimming, etc) that increases the heart rate and is continuous. Phase I aerobic training focuses on building a strong foundation.

Workout Variables	Level 1 Fitness (<i>see self assessment</i>)	Level 2 Fitness (<i>see self assessment</i>)
Frequency	4 days per week	4-5 days per week
Intensity	Moderate (must take a breath between sentences while exercising)	Moderate (must take a breath between sentences while exercising)
Time	2-3 hours per week, 30 - 40 min per session	2.5-3 hours per week, 35-45 min per session

Core Strength Training – Core strength training focuses on abdominal and large muscle group (thighs, chest and upper back) strength.

Workout Variables	Level 1 Fitness (<i>recommended exercises</i>)	Level 2 Fitness (<i>recommended exercises</i>)
Frequency	2 days per week	2-3 days per week
Intensity	Light weight loads	Light weight loads
Sets & Reps	1-2 sets, 10-12 reps	2-3 sets, 10-15 reps

Phase II

Training Objective – Build aerobic endurance and muscular endurance (ability to contract many times without fatiguing).

Aerobic Training – Increasing total time of exercise is the focus of Phase II aerobic training. The goal is to improve the body's ability to work for long periods of time at a moderate workload.

Workout Variables	Level 1 Fitness (<i>see self assessment</i>)	Level 2 Fitness (<i>see self assessment</i>)
Frequency	4-5 days per week	5-6 days per week
Intensity	Moderate (must take a breath between sentences while exercising)	Moderate (must take a breath between sentences while exercising)
Time	3-4 hours per week, 35-50 mins per session	4-5 hours per week, 45-60 mins per session

Strength Training – Should be continued throughout all phases. In addition, complete body muscular endurance training should be added.

Workout Variables	Level 1 Fitness (<i>recommended exercises</i>)	Level 2 Fitness (<i>recommended exercises</i>)
Frequency	2-3 days per week	3 days per week
Intensity	Light weight loads	Light weight loads
Sets & Reps	2-3 sets, 12-15 reps	3 sets, 15-20 reps

Phase III

Training Objective – Challenge aerobic threshold and add firefighter related muscular endurance exercises.

Aerobic Training – Phase III aerobic training builds on the base and includes some higher intensity work. The goal is to challenge the upper end of the aerobic threshold.

Workout Variables	Level 1 Fitness (<i>see self assessment</i>)	Level 2 Fitness (<i>see self assessment</i>)
Frequency	4-5 days per week	5-6 days per week
Intensity	Moderate (must take a breath between sentences while exercising)	Moderate (must take a breath between sentences while exercising)
Time	3-4 hours per week, 35-50 min per session	4-5 hours per week, 45-60 min per session
Cardio Challenge	One session per week add 10-20 minutes of at top of comfort zone (must take a breath after 3-4 words).	

Strength Training – Same as Phase II but new exercises added.

Workout Variables	Level 1 Fitness (<i>recommended exercises</i>)	Level 2 Fitness (<i>recommended exercises</i>)
Frequency	2-3 days per week	3 days per week
Intensity	Light weight loads	Light weight loads
Sets & Reps	2-3 sets, 12-15 reps	3 sets, 15-20 reps

Creating SMART Goals

SMART stands for Specific, Measurable, Action-Oriented, Realistic and Time Stamped.

Specific

All of your goals should answer the question, “What do I want to accomplish?” Run a 10K race, improve flexibility, lose body weight or simply improve my health? Specific goals make it easier to focus your efforts.

Measurable

Use numbers or benchmarks to define improvement. For example, run 3 days a week for 30 minutes each session, lose 10 pounds, or improve flexibility by one inch.

Action-Oriented

Make sure long-term goals are complemented by short-term goals. The action-oriented element outlines how the goal will be accomplished. Schedule exercise sessions, or make an appointment with a personal trainer to discuss developing a personal exercise plan.

Realistic

Be realistic about the goals you set. Be conservative. Don't set yourself up for failure. For example, physiologically it is only possible to lose 1-2 pounds of fat weight per week. Therefore it is unrealistic to set a weight lose goal of 5 pounds per week.

Timed

A target date should be assigned to meet a goal.

Regular Goal Review

If you are approaching a goal date but have not met the goal, be flexible. Why wasn't the goal met? Was the goal too aggressive? If need be, modify your goals to make them more realistic.

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Fitness Self-Assessment

Use the information below to perform a fitness self-assessment. After you have performed a self-assessment, use the chart below to determine your starting fitness level. If three out of four of the criteria below are true, consider this to be your general fitness level.

Fitness Level I	Fitness Level II
<ul style="list-style-type: none"> • Less than 45 push up's & crunches • Aerobic capacity less than 45 • Flexibility less than 15" • Overweight or obese 	<ul style="list-style-type: none"> • 45 or more push up's & crunches • Aerobic capacity greater than 45 • Flexibility greater than 15" • Normal body weight

Muscular Endurance

Push-ups and crunches measure upper body and abdominal muscle endurance. Both exercises are simple and do not require equipment. You will need an assistant to help. Follow the procedure below. The goal is to perform 45 of each.

Push-ups

1. Assume the front leaning position with hands approximately shoulder width apart. The back, buttock and legs must be straight from head to heels and must remain so throughout. Arms must also be straight, shoes must be worn and you may not prop your feet against the wall.
2. A partner places a fist on the floor beneath the chest so that it lines up with the top of the sternum. Begin push-ups by bending elbows and lowering the entire body until you touch the spotter's fist. Be sure to keep the back straight.
3. Return to the starting position by extending the elbows until the arms are straight. Full extension of the arms is required.
4. Repeat correctly as many times as possible to a maximum of forty-five (45). The pace should allow for forty push up's per minute; count Down, One, Down, Two, Down, Three, etc.
5. The effort must be continuous. Do not rest between.

Crunches

1. Lie flat on back with bent knees, heels close to buttocks (10-12 inches).
2. Arms folded across the chest and feet held to floor by partner. Your partner may not kneel on your feet or sit on your feet with hands behind calf.
3. Curl up touching elbows to thighs. Hands must stay in contact with chest.
4. Lie back touching shoulder blades to floor. Shoulders must touch floor!
5. Repeat correctly as many times as possible to a maximum of forty-five (45). The pace should allow 30 crunches per minute, count Up (shoulders off ground), One (shoulder to ground), Up, Two, Up, Three, etc.
6. The effort must be continuous. Do not rest between.

Flexibility

Flexibility is an important attribute of personal fitness. However, without equipment it is difficult to self-measure. Here is one self-measurement method.

Sit on the floor with your hips and back against the wall. Straighten your legs and spread your feet slightly apart. Place a yardstick on the floor between your legs. With your back, shoulders and head against the wall, reach forward with your hands, fingertips together. Place the zero end of the yardstick where your fingertips touch the floor. Secure a yardstick to the floor by placing a 12-inch piece of tape across it. To test your flexibility, relax exhale and reach forward slowly. Note the number of inches forward you reached. Your goal is 15 plus inches.

Or, stand upright with your legs straight. Bend from the waist keeping your legs straight and allow your body weight to pull your hands towards the floor. Do not bounce! Reach for the floor and note whether you are able to place your palms flat on the ground, fingertips only or unable to touch the ground at all. If you can 'palm' the floor you are very flexible. If only your fingers touch the ground you need to incorporate flexibility into every workout. If you cannot touch the floor, pursue an aggressive flexibility program.

Body Composition

Body composition consists of body weight and body fat. It is easy to measure body weight. You should weight yourself in physical fitness uniform without shoes. If you are monitoring your weight regularly, be sure to weight yourself at about the same time each day.

There are several methods for measuring body fat. Most require training and/or equipment. However, there is one simple self-assessment method that will give you a general reading. Undress and stand in front of a full-length mirror!

Aerobic Capacity

Most commercial treadmills have a Gerkin aerobic capacity fitness protocol. Simply follow the on screen instructions. A VO_2M score of 40 ml/kg/O₂/min is fair, 45 – 50 good, and above 50 very good.

Alternatively, you can self-measure your aerobic capacity using a running protocol as follows.

Mile-And-A-Half Run Test Procedure

1. Find a measured track such as a local high school or college. A mile-and-half is typically six (6) laps around a standard track.
2. Wear comfortable clothes and bring a watch. Be sure to warm-up by walking or running for 5-10 minutes. Perform 2-5 minutes of stretching.
3. When you are ready to begin, start the stopwatch. If you do not run regularly, begin slowly but increase your pace quickly. Your goal is to perform the test at or near your maximum ability.
4. Time stops when you cross the finish line.
5. Use the chart below to calculate your aerobic capacity. Simply find your finish time in the left-hand column marked "Run Time". Then read across to the column marked VO_2M .

Your goal is to finish the run in less than 12 minutes and 30 seconds, which is equivalent to a VO_2M of about 40. Scores categories are 40 fair, 40-50 good, above 50 very good.

Run Time	VO_2M	Run Time	VO_2M
7:00	78.5	12:30	40.4
7:10	76.8	12:40	39.7
7:20	75.1	12:50	39.0
7:30	73.5	13:00	38.4
7:40	71.9	13:10	37.7
7:50	70.3	13:20	37.1
8:00	68.8	13:30	36.5
8:10	67.4	13:40	35.9
8:20	65.9	13:50	35.4
8:30	64.5	14:00	34.8
8:40	63.2	14:10	34.3
8:50	61.8	14:20	33.8
9:00	60.5	14:30	33.3
9:10	59.3	14:40	32.8
9:20	58.1	14:50	32.3
9:30	56.9	15:00	31.8
9:40	55.7	15:10	31.3
9:50	54.6	15:20	30.9
10:00	53.5	15:30	30.4
10:10	52.4	15:40	30.0
10:20	51.4	15:50	29.5
10:30	50.4	16:00	29.1
10:40	49.4	16:10	28.7
10:50	48.5	16:20	28.2
11:00	47.6	16:30	27.8
11:10	46.7	16:40	27.4
11:20	45.8	16:50	27.0
11:30	45.0	17:00	26.6
11:40	44.1	17:10	26.2
11:50	43.3	17:20	25.8
12:00	42.6	17:30	25.4
12:10	41.8	17:40	25.0
12:20	41.1	17:50	24.6

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Muscular Endurance Strength Training Routine

CAUTION: The chart below lists core (abdominal & large muscle group) strength exercises. Two options are offered, a no-equipment option and a traditional gym equipment option. The routine is a full body workout. Start with 1-3 sets of 10-15 repetitions depending on your fitness level. If you are not familiar with the exercise listed or technique, consult a personal trainer.

(C) Core exercise

<i>Primary Muscle(s) Focus</i>	<i>Body Weight Technique</i>	<i>Traditional Technique</i>
All Muscle Groups	5 min low intensity warm up	Same
(C) Abdominals	Standard crunch	Abdominal Crunch Machine
(C) Erector Spinae (low back) & Glute (Butt)	Sky divers	Back Extension Device
(C) Glutes (butt)	Prone Glute Bridge	Hip Extension Machine, Leg Press Machine
(C) Quadracep (thigh)	Standing Split Lunge	Leg Extension
(C) Abdominals Obliques (side abs)	Standard Crunch w/twist	Torso Twist Machine
(C) Chest (Pectoral)	Push-Up (Positive & Negative OR Negative (down only)	Olympic or Smith Machine Bench Press or Assisted Dip Machine
(C) Hamstrings (back upper leg)	Standing Split Lunge	Leg Curl Mchine
(C) Abdominals	Standard Crunch	Standard Crunch
Bicep (front upper arm)	Pull-ups	DB Curls or Arm Curl Machine
Tricep (back upper arm)	Push-ups	DB Extension, Tricep Push Down Machine
(C) Deltoid (shoulder), Trapezuis (upper back) & Rhomboid (upper back & neck)	Weighted Side & Front Arm Raises	DB Side & Front Arm Raises
Gastroc & Soleus (calf muscles)	Standing Body Weight Calf Raise	Standing or Seated Calf Machine
(C) Lattisimus (under arm)	Pull-ups	Assisted Pull Up Machine, Low Row, Lat Pull Down Machines
Hip Adductor & Abductor (groin muscles)	Side Lying Leg Raises	Seated Hip Add & Abduction Machine