

Heartland Fire Academy
Recruit Candidate Physical Fitness and Training

Fire fighting is a dangerous and physically demanding profession. As a firefighter you have a responsibility to your community, your crew, your partner and yourself to be in top physical condition. You must be in excellent aerobic/cardiovascular shape, and possess superior muscular strength and endurance to expect a successful fire-fighting career. Upon selection into the Heartland Fire Academy, you will be expected to be in good physical condition upon your arrival at the academy.

Most individuals who are interested in becoming a firefighter are already fit and maintain a healthy and a physically active lifestyle. If you fit into this category, then preparing yourself for the Academy will be a matter of simply increasing the intensity of your current exercise program. If for some reason you are not physically fit, you must begin now to get yourself ready for the Fire Academy and your career.

If you are even slightly overweight, being so will be a burden to you in the Fire Academy. The health benefits of proper weight are well documented, and these should be evident to any firefighter candidate. Once you are successful in obtaining a full time position as a firefighter you become a role model to other firefighters, other firefighter candidates and the citizens, which you will serve. Be physically prepared.

There are four physical components that a Fire Academy Recruit Candidate should train: aerobic/cardiovascular conditioning, muscular strength and endurance, flexibility, and task specific exercises. These components are briefly explained in this handout.

Fire Academy Expectations

When you begin the Heartland Fire Academy you will be expected to run continuously for 3 miles, at about 10 min. per mile. By the end of the Fire Academy, you will be running closer to 8 min. per mile. Additionally, you will be doing activities such as push-ups, pull-ups, sit-ups, running stairs and leg-lifts. As the Fire Academy progresses, you will begin task specific activities such as pulling hose, running stairs, climbing ladders, carrying/dragging/pushing/pulling/manipulating heavy tools and equipment and working on your feet for 8-10 hours a day. Many of these activities will be performed while wearing turnouts and a helmet.

Performing these basic tasks at a high level will be the focus during the Academy, and in order to perform these activities without injury, you must be in top physical condition. These activities are the basis of your career and performing them in full protective equipment and under adverse conditions is expected. In order to have a successful career, you must maintain your high level of fitness.

Training Tips/Guidelines

1. Before beginning a high to moderate intensity exercise program, get a medical examination.
2. Warm-up and then stretch before exercising.
3. Exercise correctly and with good form. There is no benefit to exercising if your form is poor and you injure yourself. If you are uncertain as to proper technique, consult an ACE (American Council of Exercise) Certified personal trainer at (www.acefitness.org).
4. Increase either exercise intensity or duration by a maximum of 10% per week. Increase either intensity (how hard you exercise) or duration (how long you exercise) but not both.
5. If you need to lose weight, eat less and exercise more. Doing extra aerobic/cardiovascular exercise at 60-70% heart rate maximum (HRM) helps weight loss. A useful website is (www.polarusa.com) select Athletes and Exercisers and read “Weight Management” and select “Polar Body Age” and read “TriFit Nutrition”.
6. Good nutrition ensures the maximum benefit from your exercise program. Eat well, and if you don’t know what that means, look at www.eatright.com, link “Food and Nutrition”.
7. Cool down after exercising. A good technique is to walk for 5-10 minutes followed by a thorough stretch.
8. You can and should, stretch every day but give your muscles 48 hrs of recovery between workouts.
9. Consult www.acsm.org “fit society pages” for more information on nutrition, exercise, exercise guidelines and weight loss.

Physical Training and Conditioning

Aerobic/Cardiovascular

Running is the cardiovascular training method of choice at the San Miguel Fire District and El Cajon Fire Department, both in the academy and out in the ranks. It provides aerobic cardiovascular conditioning, and also task specific to firefighting since most of our day and the majority of our tasks require that we work on our feet (chores at the station, drills, medical aids, firefighting, etc.) If you’re already running regularly, add stairs, hills, stairmaster/stepmill, deep sand running and intervals for variety and to improve your muscular strength and power. If you are just starting to run, follow the Cardiovascular Interval Training Program outlined below. Use a heart rate monitor to maximize your training effort. Beginning exercisers should work at 60-70% of heart rate maximum (HRM), and progress to 70-80% HRM. For more discussion on heart rates, calculations, and conditioning go to www.polarusa.com and select ‘Athletes and Exercisers’. Explore the links “Running” and “Weight management” as well as “Target Zone Calculator”

Cardiovascular/Interval Training Program

(Monday = M, Tuesday = T, Wednesday = W, Thursday = TH, Friday = F)

Level 1- MWF: jog 1 mile at 60-70% HRMax, TTH: 1 mile alternating 30 sec. at 80% HRMax (somewhat hard) and 30 sec. at 60% HRMax (fast walk)

Level 2- MWF: 1.5 miles at 60-70% HRMax, TTH: 1.5 miles alternating as Level 1

Level 3- MWF: 2 miles at 60-70% HRMax, TTH: 2 miles alternating 60 sec. at 80% HR max (somewhat hard) and at 60% HRMax (fast walk)

Level 4- MWF: jog 2.5 miles at 60-70% HRMax, TTH alternating as level 3

Level 5- MWF: jog 3 miles at 60-70% HRMax, TTH: 3 miles alternating 90 sec. at 80% HRMax (somewhat hard) and 60 sec. at 60% HRMax (fast walk)

Level 6- MF: jog 3 miles at 60-70% HRMax, W: jog 1.5 miles at 60-70% HRMax, TTH: jog 3 min. at 60-70%, run stairs 1 min. (moderately hard)

Level 7- MF: jog 3 miles at 60-70% HRMax, W: jog 1.5 miles at 60-70% HRMax, TTH: jog 3 min. at 60-70% HRMax, run stairs 90 sec. (moderately hard)

Level 8- MF: jog 3 miles at 60-70% HRMax, W: jog 1.5 miles at 60-70% HRMax, TTH: jog 3 min. at 60-70% HRMax, stairs 2 min. (moderately hard)

Level 9- MF: jog 3 miles at 60-70% HRMax, W: jog 1.5 miles at 60-70% HRMax, TTH: jog 3 min. at 60-70% HRMax, stairs 2.5 min. (moderately hard)

Level 10- MF: jog 3 miles at 60-70% HRMax, W: jog 1.5 miles at 60-70% HRMax, TTH: jog 3 min. at 60-70% HRMax, stairs 3 min. (moderately hard)

Strength

To be successful in both the fire academy and in your career, you must have upper and lower body strength and power. This requires you train against resistance, and also improve your “core” strength and functions. Discussions on the importance of core strength are beyond the scope of this hand out, but keep in mind that your trunk (core) must be strong and stable for your upper and lower body can perform at their maximum. There is a list at the end of this handout in including some books on “core” and athletic conditioning to which you can refer for more information.

There are two common approaches to strength training. One is a ‘split’ workout where different muscles are exercised on alternating days, the other is circuit training. Both methods incorporate traditional exercises such as: leg press, squats, split squats, step-ups, lunges, bench lunges, standing military press, lat pull-downs, pull-ups, bench press, push-ups, bent-over rows, high/low rows, dips, abdominal curls, swimmers, wrist rollers, hand grippers. Either approach is useful in developing strength for firefighting. You may choose either approach, and may even switch from one to another. Just be consistent and keep working out.

Two examples of 'split' programs:

Upper body/lower body split

MWF: all upper body exercises

TTHS: all lower body exercises and abdominals

Push/Pull split

MWF: all pushing exercises and legs (standing military press, bench press, push-ups, dips, lunges, step-ups)

TTHS: all pulling exercises and abdominals (pull-ups, lat pull downs, bent-over rows, high/low pulls, Swiss ball abs, crunches, core abs)

Circuit training programs generate both muscular strength and endurance when done correctly (go straight from one exercise to another with a minimum of 15-30 seconds of rest between, keeping your heart rate elevated). Following are examples of two circuit training exercise programs.

Circuit Training Super-Set (Do the two exercises one after the other until 3 sets of each of the two exercises have been completed, then move to the next set of exercises).

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| 1. Lunges and Abdominal Crunches | 5. Chin-Ups and Standing Military Press |
| 2. Bench Press and Seated Row | 6. Dips and Lat. Pull Downs |
| 3. Single Leg Press and Wrist Rollers | 7. Split Squats and Swimmers |
| 4. Bent-Over Rows and Push-Ups | |

Circuit Training: (Complete one set of each exercise, Then move onto the next exercise, resting no more than 30 seconds between sets. Continue until you have gone through the list of exercises 3 times).

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| 1. Treadmill or Stair climber for 5 min. | 10. Standing Dumb-bell Military Press |
| 2. Bench Press | 11. Treadmill or Stairclimber for 5 min. |
| 3. Seated Rows | 12. Lunges or Split Squats |
| 4. Treadmill or Stairclimber for 5 min. | 13. Wrist Rollers |
| 5. Push-Ups | 14. Treadmill or Stairclimber for 5 min. |
| 6. Bent-Over Rows | 15. Dips |
| 7. Abdominal Crunches | 16. Single Leg Press or Step-ups |
| 8. Treadmill or Stairclimber for 5 min. | 17. Treadmill or Stairclimber for 5 min. |
| 9. Chin-Ups | |

Three sets of 8-10 repetitions of each exercise is the common method of strength training. The final repetition of each set should be difficult, and once you are able to easily perform 3 sets of 10 repetitions, then it is time to increase the resistance. If you are a beginning exerciser, start with one set of exercises. If circuit training, began with only one circuit through the exercises. Continue doing only one set or one circuit of exercises until you find that you are no longer sore 48 hours after exercising. Then begin doing two sets, or two circuits. Progress to 3 sets or circuits the same way.

Stretching/Flexibility

Stretching is something you can do, and should do every day. Warm up easily (walk, jog, or cycle for 5-10 min) until you have started to sweat slightly. Hold your stretches for 30 seconds, to a point of mild discomfort, without bouncing. You should stretch your hamstrings, quadriceps, gluteus medius, abdominals, pectoralis, triceps and back (upper, lower, middle). For information and positions for stretching go to www.halhighdon.com/15Ktraining/stretch.htm (quads, hamstrings, piriformis, gastrocnemius, soleus), www.runningstrong.net/stretching.htm (calf, hamstring, quadriceps).

Fire Fighting Task Specific

Firefighting requires whole body, functional movements such as pushing, pulling, lifting, carrying, dragging, stabilizing, swinging, crawling, etc. Like wise, the Fire Academy will challenge you with these activities, so it makes sense to train and improve your functional strength for these tasks. Once you are comfortably weight training 4-6 days a week without any residual muscle soreness, start adding in some of these drills a couple days a week.

1. Stair Climbing with Weight: Find some stairs and climb wearing a weighted vest and/or carrying some weight (dumbbells, gallon bottles filled with water or sand). Climb up, go back down and repeat. You can also do this on a stairclimber/stepmill.
2. Drag and Pull: Find something heavy to drag (tire, sandbag, cement blocks, tire with sandbag, etc.) and attach a rope to it. The rope needs to be long (50 feet). You will need an open spot (an empty parking lot, for example) Throw the end of the rope over your shoulder and drag. Try to run. It should be moderately difficult to run. Set a distance (100-200-300 feet) and when you get there, turn around, take a knee and pull the “heavy object” to you hand-over-hand with the rope. Rest a couple of minutes and repeat.

Modifications:

1. Crawling: If you are dragging in a place where you can crawl (grassy field), consider getting on your hands and knees and dragging the same weight while crawling.
2. Dummy Drag: Wrap the rope around your “heavy object” to give you a loop to grab a foot or two from the weight. The distance from the weight to the loop will take some adjusting to get correct. You want the “heavy object” close to you, so that it is just dragging on the ground close to your feet, as though you were dragging a dummy, or grab the rope loop and walk backwards dragging the weight. Drag 50 feet and repeat.
3. Rope Pull: Again, using something heavy, attach a rope, and then sling the rope over something overhead (tree branch, playground high bar, anything overhead which will support some weight that you will not destroy). Hand-over-hand with the rope, raise the weight and then slowly lower.
4. Sledgehammer: Find/borrower a sledgehammer (6 lb). You can create a target at waist height, knee height or on the ground and swing away.
5. Weighted Carry: Pick up weights off the ground (dumbbells, gallon bottles filled with water or sand), carry 40-50 feet, put the weight back down, stand up, turn around, pick up the weights and return to starting position. Repeat.

References

Core performance by Mark Verstegen

High performance Sports Conditioning by Bill Foran Ed.

Strength Ball Training by Lorane Goldbenberg and Peter Twist

Functional Training for Sports by Michael Boyle

Stretching by B. Anderson

Yoga for Flexibility (DVD) by Patricia Walden

Ace Personal Training Manual Third Edition

www.polarusa.com

www.acefitness.com

www.acsm.org

www.eatright.com

www.nscs-lift.com