

FIREFIGHTER APPLICANT PHYSICAL APTITUDE EVALUATION

APPOINTMENT CHECKLIST AND INFORMATION PACKAGE

This information package provides a detailed overview of the physical evaluation process.

You should book your appointment using our online booking system at www.firetest.ca. Spaces may be limited at certain times of the year, so booking early is strongly advised to avoid disappointment. There are currently no additional times to book other than those listed on the website.

You must confirm your appointment by sending in Page 9 of the Information Package AND a cheque or money order payable to the University of Victoria for \$300. **Your appointment is considered pending upon booking and will not be confirmed until your payment is received. We reserve the right to offer your testing time to another candidate without notice if your payment is not received within the required 2-week timeframe.** When your payment is received in full, you will receive an email confirming your evaluation date.

Complete The Checklist!

TO DO	ACTION	DONE
Book your appointment	Visit www.firetest.ca	
Complete Page 9 of the Information Package and attach payment of \$300 (payable to the University of Victoria)	Mail to arrive at UVic at least 14 days prior to your appointment to: Meagan Bagnall School of Exercise Science, Physical and Health Education University of Victoria PO Box 1700 STN CSC Victoria, BC V8W 2Y2	
Arrange a doctor's appointment to complete the Medical Clearance Form	Bring the completed Medical Clearance Form (Pages 10-11 of Information Package) with you on your test day (Please do not mail in with your payment)	
Read the Information Package carefully	Prepare as well as you can. Email firetest@uvic.ca if you have any questions or problems.	

The physical evaluation program is administered by the School of Exercise Science, Physical & Health Education at the University of Victoria. **Please read the following information carefully in order to prepare for the tests.**

GENERAL INFORMATION

Testing will be completed at the University of Victoria in Victoria, British Columbia. All available dates and times are listed at www.firetest.ca.

You will be provided with a copy of your personal results when you finish your evaluation. Your results will also be forwarded directly to the relevant fire department or training centre as soon as possible after the tests are completed.

The testing program runs on a strict schedule. Please arrive at least 15 minutes prior to your scheduled time to check in and get dressed in your PPE. Your scheduled time is when we aim to begin your evaluation, not begin the check-in process. If you are not familiar with the University of Victoria campus, please allow yourself a little extra time so that you can find parking and make your way to our testing facility. You should expect to be at the University for approximately 3 hours on your test day.

The fee for your physical aptitude evaluation is \$300 (including taxes). This fee is non-refundable and must be paid in full a minimum of 14 days prior to your test to confirm your appointment. You must pay by cheque or money order (payable to the University of Victoria). NSF cheques are subject to a \$25 fee and will result in the cancellation of your appointment and/or your results being held from yourself or the department to which you are applying. **No refunds will be given for missed or cancelled appointments without a medical reason and accompanying medical documentation.** Credit card payments are not accepted at this time.

CONFIRMING YOUR APPOINTMENT

You will receive an email acknowledging your pending appointment date and time after you complete your booking at www.firetest.ca. This email is automatically generated and will be sent to the address provided when you complete your booking request. **Note that your appointment will not be confirmed until your evaluation has been paid for in full.** You must confirm your appointment by mailing the Appointment Confirmation Form (Page 9) with your payment to:

Meagan Bagnall
School of Exercise Science, Physical and Health Education
University of Victoria
PO Box 1700 STN CSC
Victoria, BC; V8W 2Y2

This documentation must be received at the University at least 14 days prior to your evaluation date. **We reserve the right to offer your testing time to another candidate without notice if your payment is not received within the required timeframe.**

TESTING LOCATION

The tests are conducted in the McKinnon Building at the University of Victoria. This complex is located off of McKenzie Avenue on Gabriola Road. You can access maps of the University of Victoria (look for the McKinnon Building) at <https://www.uvic.ca/home/about/campus-info/maps/>. When you arrive, follow the signage from the main lobby directing you downstairs to Room 066 to check in.

There are male and female locker rooms where you may change and shower. You should bring your own towel and a lock with you to put on a "day-use" locker, since we have no provision for securing your valuables.

Pay parking is available on several lots around campus. The McKinnon Building is located next to Lot 2 and close to the bus loop. There is also a parkade in the newly constructed Centre for Athletics, Recreation and Special Abilities (CARSA) on Vikes Way off of McKenzie Avenue.

DESCRIPTION OF THE PHYSICAL APTITUDE TESTS

This program is designed to evaluate the physical work capacities of healthy, physically active individuals. Each test requires a maximal effort. All of the tests are completed while wearing firefighting personal protective equipment (PPE) that weighs approximately 23 kg (51 lb), depending on size. This ensemble includes: helmet, flash-hood, leather work gloves, coveralls, pants, boots, jacket and self-contained breathing apparatus (SCBA). You will not breathe from the SCBA, but you must carry it. For safety during the treadmill test, running shoes are substituted for firefighting boots.

After completing the treadmill test, you will rest for 60 minutes before starting an orientation to the job-related performance tests. The orientation to the job-related tests consists of a “walk-through” session to practice each of the tasks. This will take approximately 30 minutes and will familiarize you with testing procedures and provide a suitable warm-up for the demanding tests that follow.

Each job-related test is followed by a rest period of exactly 3 minutes for recovery and, if necessary, a small drink of water. You are not permitted to leave the testing area or remove the PPE during the rest periods. The tests are described briefly on the following pages.

Aerobic Endurance



Peak oxygen uptake (VO_{2peak}) will be estimated during a progressive, incremental exercise test to exhaustion on a treadmill. Heart rate will be measured continuously during the test with a telemetry system. Please note that we do NOT use the metabolic cart and mask system at our facility, as pictured.

After a standardized 5-minute warm-up, you will walk at a speed of 3.5 mph and 10% grade for 8 minutes. This is called the constant work rate phase.

Once the constant work rate phase is completed you will immediately progress to the incremental phase. During this phase the treadmill speed remains at 3.5 mph but the grade increases 1% every minute to a maximum of 15%. Subsequently, the speed will increase by 0.5 mph each minute while the grade remains at 15% until you can no longer continue.

The duration of this test depends on your fitness level and motivation, but usually lasts about 18 minutes.

Generally, the longer the duration of the test, the better the VO_{2peak} score. Aerobic endurance will be evaluated from two test outcomes: total time on the treadmill, and your estimated VO_{2peak} score.

In other words, the treadmill test will run as follows. Minutes 0 to 3 will be completed at 3.5mph and 0% grade. At 3 minutes the grade of the treadmill will increase to 2%, and the speed will remain at 3.5mph. At 4 minutes the grade of the treadmill will increase to 6%, and the speed will remain at 3.5mph. At 5 minutes the grade of the treadmill will increase to 10%, and the speed will remain at 3.5mph. The treadmill will remain at these settings for 8 minutes,

until the 13 minute minimum requirement to pass the treadmill test. Starting at the 13 minute mark, the treadmill will increase in grade by 1% each minute, until it maxes out at 15%. Starting at the 18 minute mark, the treadmill will increase in speed by 0.5mph each minute, and remain at 15% grade. This pattern continues until the applicant can no longer continue.

When the incremental phase is completed, there is a mandatory 5-min cool-down (slow walk on a flat treadmill). In order to pass the treadmill test, you **MUST** complete the 5-min warm-up, the 8-min constant work rate phase and the 5-minute cool-down (for a total of at least 18 minutes).

Familiarization to Job-Related Tests

After the treadmill test, there is a 60 minute rest period before the start of an orientation to the job-related performance tests. The orientation to the job-related tests is standardized and must be completed according to the instructions of the testing staff.

Equipment Carry/Vehicle Extrication



You will lift and carry small (20 kg or 44 lb) and large (36 kg or 80 lb) vehicle extrication tools (the “Jaws of Life”) from the starting point and place them in designated places on the floor 15 m (50’) away.

Next, you will pick up the smaller (20 kg) tool, carry it 7.6 m (25’) and set it down in front of a vehicle door mock-up.

The smaller tool must be held in a level position at right angles to the door mock-up with the “jaws” in firm contact with each of three flat metal discs that are similarly oriented to the three “pins” that must be broken to remove a

car door. The tool must be held in the correct position for 30 s on each disc. The tool is set down between each hold, and you must stand erect before lifting the tool and moving on to the next point of contact. After this sequence is completed, you will return both tools to the starting point. The total walking distance is 105 m (345’).

This test evaluates the muscular strength and endurance required to lift, carry and use heavy tools in rescue situations. In order to pass the test, you must complete all aspects of the simulation safely and with correct form in 225 seconds or less.



Charged Hose Advance

From a standing position facing forward, you will bend and pick up a nozzle connected to 3 lengths of charged 44 mm (1.75”) hose. The test time starts when you move to pick up the hose. Holding the nozzle and hose securely with two hands over the preferred shoulder, you will advance the hose to the finish line.

The hose is advanced a distance of 30 m (100') while walking as quickly as possible (running is not permitted). The test time stops when you place both feet securely on a rubber mat.

This test assesses lower body strength and power for pulling and dragging. This test must be completed correctly and safely in 27 seconds or less.

Weighted Sled Pull



Starting from an erect position facing forward, straddling the rope on the floor, you will bend and pick up a length of static 16 mm (5/8") nylon rope attached to a weighted sled. The test time begins when you begin to reach for the rope.

Keeping your feet securely in place, you will use the rope to pull the sled over the floor a distance of 15.24 m (50'). You will then walk 15.24 m (50') and repeat the pull, walk back 15.24 m (50') and repeat the pull for the third and final time. The test time stops when the sled has completely crossed the line for the third time.

This test assesses upper body strength, power, and endurance for pulling and hoisting. The test must be completed correctly and safely in 110 seconds or less.

Forcible Entry Simulation



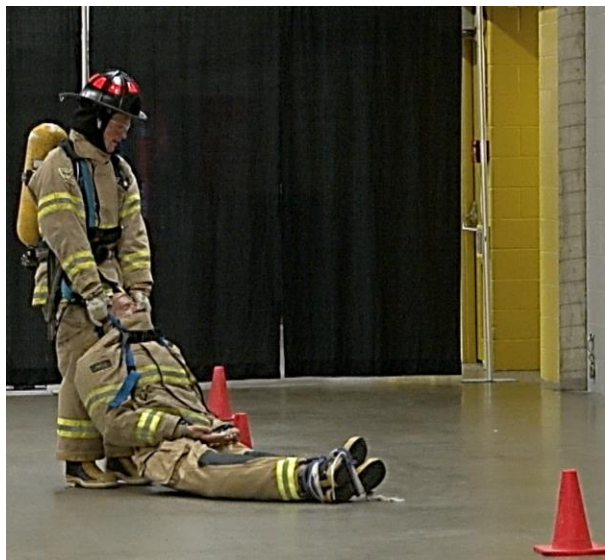
Starting from a standing position, you will pick up the 4.5 kg (10 lb) sledge hammer and use it to strike the mechanically-braked target surface of the forcible entry apparatus.

The test clock starts as soon as you reach for the hammer that is standing on the floor directly in front of the apparatus, and stops as soon as a buzzer goes off, indicating the end of the test.

This test assesses muscle strength and power for striking. The test must be completed correctly and

safely 19 seconds or less.

Victim Rescue



Starting from an erect position, you will bend to grasp a rescue harness and drag a mannequin weighing approximately 83 kg (183 lb) through a simple serpentine obstacle course. You will turn around a traffic cone at 15 m and return to the start for a total distance of 30 m (100'). The test time starts when you move to pick up the mannequin and ends when the mannequin's feet are completely across the finish line. No part of your body or the mannequin may touch the traffic cones during the test.

This test assesses upper and lower body muscle strength and endurance for pulling and dragging. The test must be completed correctly and safely in 57 seconds or less.

Ladder Climb



Starting from a standing position facing the ladder, you will climb 10 rungs (3.45 m) up and down a 7.2 m (24') ladder. This is repeated 5 times as quickly as possible.

A repetition begins with both feet on the floor at the base of the ladder. You will climb and place two feet on the 10th rung (weight-bearing step is required), reverse direction and climb down until both feet are again on the floor to complete the repetition.

The test time starts when you move to start climbing and ends when both feet are on the floor after the 5th repetition.

You must maintain three points of contact on the ladder at all times, and must climb the ladder rung by rung, without missing any of the rungs. The test must be completed correctly and safely in 97 seconds or less. This test evaluates the leg strength and endurance required for climbing under load.

EFFECTIVE PREPARATION FOR THE TESTS

In order to do your best, you should come to the laboratory on your testing day well-nourished and well rested. You should not do strenuous exercise on the days immediately before your tests. Sleep well the night before and try to be as relaxed as possible.

Avoid alcoholic beverages the day before and definitely on the day of your test. Do not smoke or drink beverages with caffeine (tea, coffee, hot chocolate, cola, etc.) for at least two hours prior to your test.

Do not eat for at least two hours before your test appointment. However, it is important to be well nourished and well hydrated. The tests are very demanding and most individuals are extremely tired at the end of each test.

If your appointment is first thing in the morning, do not skip breakfast. You should eat a light meal (e.g., fruit, toast or cereal, and juice) about three hours before your test.

WHAT DO I NEED TO BRING?

Medical Clearance Form

You must bring the Medical Clearance Form, signed by your physician, to verify that you are medically cleared to complete the test. **It is your responsibility to make sure that the physician signs the form and that the clinic or office details are included. Most physicians (and medical clinics) have a stamp that includes contact information. You will not be allowed to proceed with the test unless this form is completed correctly. Please do not mail your Medical Clearance Form in with your payment; bring it with you on your test day.**

Identification

Government-issued photo identification (*e.g.* drivers license) must be presented upon your arrival at the testing facility in order to verify your identity. **You will not be allowed to proceed with the test without suitable identification.**

Clothing

Bring the following items of clothing with you: **shorts, two T-shirts, running shoes, extra socks, and warm-up clothing.** Your T-shirt will be wet from sweat after the treadmill test. You should change into a dry shirt and then put on your warm-up gear to keep warm during the 60-minute rest period. We have PPE available for your use during the testing session, including boots. While we have a good selection of firefighting boots, getting an exact fit may not always be possible. In order to get the best fit, bring several pairs of socks (thin and thick sport socks).

Towel and Lock

You may use the locker room and shower facilities at the University to shower after your test. We recommend that you bring a lock to use on a “day locker” and you must provide your own towel.

Water and Snacks

You should bring a water bottle or sports drink (*e.g.*, Gatorade). Avoid “energy drinks” like Red Bull.

You *may* want to eat a **small** snack (*e.g.*, banana or Power Bar) during the rest period between the treadmill test and the job-related tests. Do not try anything (Gatorade, Power Bar, etc.)

for the first time during your test appointment. You should know how your body reacts to your nutritional plan well in advance of your appointment.

Be careful to practice in advance so that you know how much to eat and drink during 3+ hours of intermittent, extremely strenuous exercise combined with some degree of heat stress from the protective clothing. If you eat or drink too much you will feel sick and do poorly. If you eat and drink too little, you will get dehydrated and do poorly.

Optimal nutrition and hydration strategies tend to be very individual. Work this out for yourself. Don't follow someone else's advice unless you have had the chance to make sure it works for you under the kind of conditions you will experience during these tests.

IF YOU HAVE ANY QUESTIONS regarding your testing appointment, please email firetest@uvic.ca.

GOOD LUCK!



FIREFIGHTER APPLICANT PHYSICAL APTITUDE EVALUATION**CONFIRMATION OF APPOINTMENT**

ONCE YOU HAVE COMPLETED YOUR BOOKING AT www.firetest.ca, COMPLETE THE FOLLOWING INFORMATION AND MAIL IT ALONG WITH YOUR \$300 CHEQUE OR MONEY ORDER TO:

Meagan Bagnall
School of Exercise Science, Physical & Health Education
University of Victoria
PO Box 1700 STN CSC
Victoria, BC
V8W 2Y2

Cheques and money orders should be made payable to the UNIVERSITY OF VICTORIA.

Name: _____

Address: _____
(Street Address)

(City) (Province) (Postal Code)

Telephone: _____

E-mail: _____

I will attend the Firefighter Physical Fitness Evaluation at the following time:

Date _____ Time _____

If you have questions about your appointment, email firetest@uvic.ca or visit www.firetest.ca.

Full payment is required to confirm your appointment. This page and your payment must be received a minimum of 14 days BEFORE your appointment. Keep your Medical Clearance Form and bring it with you to your test; do not mail it in with your payment.

FIREFIGHTER APPLICANT PHYSICAL APTITUDE EVALUATION

MEDICAL CLEARANCE FOR PHYSICAL APTITUDE TESTING

Applicant name: _____

This program is designed to **evaluate the physical work capacities of healthy, physically active individuals**. Each test requires a maximal effort. All of the tests are completed while wearing firefighting personal protective equipment (PPE) that weighs approximately 23 kg (51 lb) depending on size. This ensemble includes: helmet, flash-hood, gloves, coveralls, pants, boots, jacket and self-contained breathing apparatus (SCBA). The applicant is not required to breathe from the SCBA, but must carry it. For safety during the treadmill test, running shoes are substituted for firefighting boots. The tests are administered by the School of Exercise Science, Physical & Health Education at the University of Victoria, and are **not medically supervised**. The test procedures are described briefly below:

PART I - AEROBIC FITNESS

Peak oxygen uptake (VO_{2peak}) will be estimated during a progressive, incremental exercise test to exhaustion on a treadmill. During the test, heart rate is monitored continuously with a telemetry system. Depending on fitness level and motivation, this test normally requires the individual to walk on the treadmill at a brisk pace for between 10 – 20 minutes. Regardless of the fitness level of the individual, the test involves a maximal effort and is terminated when the test subject is too fatigued to continue exercise. Combined with the maximal exercise stress, the weight and heat retention properties of the PPE result in a significant level of fatigue.

After completing the treadmill test, the applicant will recover for 60 minutes before beginning the job-related tests.

PART II - JOB-RELATED PERFORMANCE TESTS

Prior to completing the job-related tests, the applicant will complete a comprehensive “walk-through” session with an opportunity to practice each of the six tests. This takes approximately 30 minutes and serves two purposes. First, the applicant will be familiarized with all testing procedures and second, the practice provides a suitable warm-up for the demanding tests that follow. Each test is followed by a recovery period of exactly 3 minutes. Applicants may not leave the testing area or remove the protective clothing during the recovery periods.

Equipment Carry/Vehicle Extrication Test (followed by 3-min of recovery)

The applicant carries small (20 kg or 44 lb) and large (36 kg or 80 lb) vehicle extrication tools (the “Jaws of Life”) a total distance of 105 m (345’). In addition, the applicant will lift and hold the 20 kg tool in specific positions that simulate the work required to remove a vehicle door. The tools will then be returned to the starting point. The test involves continuous heavy work for approximately 3.5 minutes. This test is designed to evaluate the strength required to lift, carry and use heavy tools in rescue situations.

Charged Hose Advance Test (followed by 3-min of recovery)

The applicant will drag a charged (full of water) 44 mm (1.75 in) hose a distance of 30 m (100'). The nozzle must be held securely over the shoulder with two hands at all times as the applicant advances to the finish line. This test assesses lower body strength and power for pulling and dragging.

Rope Pull Test (followed by 3-min of recovery)

The applicant will pull a weighted sled a distance of 15 m (50') over a smooth concrete floor using a rope. This task is repeated 3 times. During this test, the applicant must stand still and pull the hose bundle towards them using 16 mm (5/8") rope. This test assesses upper body strength, power, and endurance for pulling.

Forcible Entry Test (followed by 3-min of recovery)

Using a 4.5 kg (10 lb) sledge hammer, the applicant will strike a target on a mechanically-braked forcible entry apparatus until it has moved the required distance. This test assesses muscle strength, power and endurance necessary for breaking through reinforced structures.

Victim Rescue Test (followed by 3-min of recovery)

The applicant will grasp a rescue harness and drag a mannequin weighing approximately 83.0 kg (183 lb) a distance of 30 m (100') through a simple obstacle course. The applicant will walk backwards for 15 m and return to the start line as quickly as possible while navigating around a series of traffic cones. This test assesses muscular strength and endurance for dragging.

Ladder Climb Test (followed by 3-min of recovery)

The applicant will climb a 7.3 m (24') ladder to the 10th rung and return to the floor as quickly as possible. This task will be repeated five times. The applicant must step on every rung on the way up and down the ladder and maintain "3-point" contact with the ladder at all times for safety. Fall protection is provided. This test assesses muscle strength, endurance, and anaerobic capacity for climbing.

Is this individual taking any medication that could affect normal physiological responses to exercise?

No _____ Yes _____ If yes, please explain.

Resting heart rate: _____ bpm Resting BP: _____ mmHg

If heart rate is greater than 100 bpm and/or blood pressure is greater than 144/94 mmHg, is this individual in sufficient health to undertake maximal exercise?

No _____ Yes _____ If yes, please explain.

Is there any medical reason that this individual should not undertake very strenuous exercise?

No _____ Yes _____ If yes, please explain.

My signature below confirms that this applicant has been given a medical examination and is medically cleared to undertake the Firefighter Physical Aptitude Evaluation described above.

Physician's name: _____ **Date:** _____

Telephone: _____

Office or Clinic Address:

Signature: _____