

# FIREFIGHTING



## PURPOSE

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of firefighting.

First, download and review the General Regulations at: <http://updates.skillsusa.org>.

## ELIGIBILITY

Open to active SkillsUSA members enrolled in technical and career technology programs with protective services/firefighting as part of the curriculum and occupational objective.

## CLOTHING REQUIREMENTS

Official SkillsUSA light blue work shirt and navy pants, black leather work shoes.

These regulations refer to clothing items that are pictured and described at: [www.skillsusastore.org](http://www.skillsusastore.org). If you have questions about clothing or other logo items, call 1-888-501-2183.

**Note:** Contestants must wear their official contest clothing to the contest orientation meeting.

**For the Written Test and Oral Interview and Oral Professional Assessment (to be held on the same day):** Blue collared/button-up SkillsUSA shirt, dark blue duty pants, black shoes or boots, and black belt. Contestants should be shaven with a neat haircut and must exhibit command presence.

**For the CPAT and Practical Skills test on the following day:**

**CPAT:** Sweatpants or workout pants (no shorts), SkillsUSA T-shirt or fire department T-shirt, tennis shoes.

**Practical Skills events after the CPAT:** Class B dress — SkillsUSA or any non-generic shirt,

no affiliation to state or school; dark blue duty pants; black shoes or boots; and black belt, as if answering a call from a fire station.

## EQUIPMENT AND MATERIALS

1. Provided by the technical committee:  
All ladders, hose, hand tools, ropes, water supply, engine apparatus, salvage covers and training tower/facility.
2. Supplied by the contestant:
  - a. Complete set of firefighter's personal protective equipment, including:
    1. Helmet with face shield and chin strap.
    2. Bunker coat and pant with liners.
    3. Standard fire boots. (with steel toe/shank/shin guard.)
    4. Nomex hood and fire gloves.
    5. Sneakers.
    6. SCBA face piece.
  - b. Pen and/or pencil for written test. (included in orientation.)
  - c. All competitors must create a one-page résumé and submit a hard copy to the technical committee chair at orientation. Failure to do so will result in a 10-point penalty.

**Note:** Your contest may also require a hard copy of your résumé as part of the actual contest. Check the Contest Guidelines and/or the updates page on the SkillsUSA website at: <http://updates.skillsusa.org>

## SCOPE OF THE CONTEST

This contest evaluates the contestants' ability to perform firefighting skills. Contestants will demonstrate their ability to perform skills selected from the IAFF/ICHIEFS Candidate Physical Ability Test (CPAT) Menu and National Fire Protection Association.

## Knowledge Performance

The contest will include a written knowledge exam assessing general knowledge of firefighting. IFSTA Manual *Essentials of Firefighting*, Sixth Edition.

## Skill Performance

The contest will include 10 stations assessing skills needed for firefighting.

## Contest Guidelines

1. For the first two stations — donning structural PPE (station 1) and ropes and knots (station 2) — competitors are required to wear full NFPA-approved turnout gear including coat, pants, helmet (with skull cap), firefighting gloves, leather or rubber (steel toe/shank/shin guard) boots and Nomex hood. All department/school names must be removed/covered prior to the competition.
2. For the remaining eight stations (the CPAT testing activities), contestants will be allowed to change from the official SkillsUSA competition uniform. Contestants must wear long pants, a T-shirt and sneakers while performing in the CPAT. The CPAT testing activities include: stair climb, hose drag, equipment carry, ladder raise and extension, forcible entry, search, rescue drag and ceiling pull.

Below is the breakdown for times/points for the timed CPAT skills:

00:00 – 10:20:	70 points
10:21 – 10:40:	65 points
10:41 – 11:00:	60 points
11:01 – 11:20:	55 points
11:21 – 11:40:	50 points
11:41 – 12:00:	45 points
12:01 – 13:00:	40 points
13:01 – 14:00:	35 points
14:01 – 15:00:	30 points
15:01 and over:	25 points

### Ropes, Knots and Tool Raise

This skills test will show the candidates' ability to tie and dress useful Fire Service knots and to demonstrate their use to safely raise and lower a tool such as an axe, roof hook or pike pole.

The candidate will wear full PPE minus SCBA and will use Structural Firefighting Gloves while completing this skills test.

The following knots will be tied in an open setting or they can be tied around a horizontal pole. A great website to study these knots is [www.animatedknots.com](http://www.animatedknots.com); click on the Rescue Knots or look them up by name.

- Half Hitch: tie around bar.
- Clove Hitch — Closed: around an object.  
Tie Around Bar.
- Clove Hitch — Open: Tie the knot in hand and slip it over an object.
- Bowline: Tie around bar or tie in hand.
- Figure-Eight or Flemish knot: Tie in hand and lay it over the bar.
- Figure-Eight on a bight:  
Tie in Hand and lay it over the bar.
- Figure-Eight Bend or Flemish Bend or Figure-Eight Follow Through: around bar.
- Becket Bend or Sheet Bend using two different sized ropes: around bar.
- Girth Hitch or Larks Head used for Hose Straps: around bar.

### Tool Raise or Lower

The second part of this skills test is to show that the candidate can tie off a hand tool for it to be raised and or lowered safely using a utility rope. Given a long length of rope and an axe, pike pole and a roof hook, the candidate will draw a card to select the tool that will be tied for raising/lowering. This is a timed event. Time starts when the candidate touches the tool or rope and stops when the candidate holds up the finished assembly over his/her head. Ideally, the utility rope would have a simple change of direction by looping it over a fixed point overhead (beam or rail) with a pulley or carabiner attached so that the assembled product could be raised and the tagline demonstrated.

A five-second penalty will be assessed for each knot or hitch that is incorrect and a 10-second penalty assessed if the tool is inverted or a tagline is not provided via incorrect knot placement.

### 24' Fire Service Extension Ladder Raise

This skills test will demonstrate how quickly the candidate can correctly move into place and safely raise a 24' fire service extension ladder. This is a timed event that will focus on accuracy and safety. After raising the ladder correctly for time, the candidate will safely lower the ladder from the building.

At the beginning of the test, the ladder will be on the ground, parallel to the building that is to be laddered, approximately 15' from the building as if it had just been removed from the fire apparatus and placed on the ground.

Time starts when the candidate wearing full PPE minus SCBA touches the ladder. The candidate will use commands and raise the ladder safely. The candidate will return the ladder safely to its original position on the ground.

**Note:** A firefighter will be present to assist only as a spotter and safety backup. This spotter can be asked to assist with heeling or footing the ladder but must be asked. The spotter can also assist with heeling the ladder when it is lowered. The spotter is not to support or assist in any other way unless the ladder begins to get out of control. If the candidate and spotter are on opposite sides of the ladder and need to switch positions, the command “switch right” will be used. The candidate will use loud audible commands that demonstrate that he/she is aware of the surroundings and so others on the fire ground nearby will know what is happening. Owning this drill is important to self-confidence and the success of working with ladders.

## Standards and Competencies

### **FF 1.0 — Demonstrate general knowledge of heat, heat transfer, fires, firefighting equipment, firefighting procedures and NFPA standards to the Firefighting I curriculum by NFPA**

- 1.1 Explain the principles of heat, heat transfer and fire
- 1.2 Explain the relationships between heat and fire
- 1.3 Identify commonly referenced NFPA standards
- 1.4 Describe each of the components of PPE
- 1.5 Explain the use and care of PPE
- 1.6 Describe the proper use of common firefighting equipment
- 1.7 State general safety rules and principles
- 1.8 Locate safety standards for firefighting
- 1.9 State general firefighting procedures

### **FF 2.0 — Don structural personal protective equipment within 60 seconds**

- 2.1 Don trousers and boots
- 2.2 Don coat
- 2.3 Adjust hood over the head
- 2.4 Don helmet, adjust chin strap
- 2.5 Ensure that all fasteners, snaps, buckles, etc., are fastened

### **FF 3.0 — Tie ropes and knots used in firefighting situations to relate IFSTA Essential, fifth edition standards**

- 3.1 Tie figure-eight on a bight
- 3.2 Tie and hoist an axe or pike pole

### **FF 4.0 — Complete a stair climb required in firefighting situations to CPAT expectations**

- 4.1 Climb stairs while carrying an additional 25 lb. simulated hose pack

### **FF 5.0 — Demonstrate ability to drag hoses as required at a fire scene to CPAT expectations**

- 5.1 Stretch uncharged hose lines around obstacles
- 5.2 Advance lines

### **FF 6.0 — Demonstrate ability to carry equipment used at fire scene to CPAT expectations**

- 6.1 Remove power tools from fire apparatus
- 6.2 Carry tools to fire scene and return to apparatus

### **FF 7.0 — Demonstrate procedures to raise and extend single and double ground ladders to CPAT expectations**

- 7.1 Place a ground single ladder at the fire scene
- 7.2 Extend and lower fly section of a 24' extension ladder

### **FF 8.0 — Demonstrate ability to force entry into a structure to CPAT expectations**

- 8.1 Penetrate a locked door
- 8.2 Breach a wall

### **FF 9.0 — Complete search functions at a simulated fire scene to CPAT expectations**

- 9.1 Crawl through dark unpredictable areas to search for victims
- 9.2 Use standard right- or left-hand search pattern
- 9.3 Pause to listen for sounds of distress

### **FF 10.0 — Demonstrate skills for a rescue drag to CPAT expectations**

- 10.1 Remove victim from a fire scene by dragging

### **FF 11.0 — Demonstrate procedures for opening a ceiling with provided pike pole to CPAT expectations**

- 11.1 Push the pike pole or ceiling hook through the ceiling with the hook pointed away from self
- 11.2 Pull the ceiling down and away

### **Committee Identified Academic Skills**

The technical committee has identified that the following academic skills are embedded in this contest.

#### **Math Skills**

- Use fractions to solve practical problems.
- Use proportions and ratios to solve practical problems.
- Measure angles.
- Find surface area and perimeter of two-dimensional objects.

#### **Science Skills**

- Plan and conduct a scientific investigation.
- Describe basic needs of organisms.
- Describe and identify physical changes to matter.
- Use knowledge of heat, light and sound energy.
- Use knowledge of temperature scales, heat and heat transfer.
- Use knowledge of simple machines, compound machines, powered vehicles, rockets and restraining devices.

#### **Language Arts Skills**

- Provide information in conversations and in group discussions.
- Demonstrate use of such verbal communication skills as word choice, pitch, feeling, tone and voice.
- Demonstrate use of such nonverbal communication skills as eye contact, posture and gestures using interviewing techniques to gain information.

### **Connections to National Standards**

State-level academic curriculum specialists identified the following connections to national academic standards.

#### **Math Standards**

- Geometry.
- Measurement.
- Problem solving.
- Communication.
- Connections.
- Representation.

**Source:** NCTM Principles and Standards for School Mathematics. For more information, visit: [www.nctm.org](http://www.nctm.org).

#### **Science Standards**

- Understands forces and motion.
- Understands the nature of scientific inquiry.

**Source:** McREL compendium of national science standards. To view and search the compendium, visit: <http://www2.mcrel.org/compendium/browse.asp>.

#### **Language Arts Standards**

- Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- Students use spoken, written and visual language to accomplish their own purposes. (e.g., for learning, enjoyment, persuasion, and the exchange of information.)

**Source:** IRA/NCTE Standards for the English Language Arts. To view the standards, visit: [www.ncte.org/standards](http://www.ncte.org/standards).