

Las Positas College  
3000 Campus Hill Drive  
Livermore, CA 94551-7650  
(925) 424-1000  
(925) 443-0742 (Fax)

## Course Outline for FST 90

### FIREFIGHTER I ACADEMY-CERTIFICATION PREPARATION

Effective: Spring 2014

#### I. CATALOG DESCRIPTION:

FST 90 — FIREFIGHTER I ACADEMY-CERTIFICATION PREPARATION — 6.50 units

Development of individual skills and basic knowledge necessary to perform the functions of a firefighter. Practice donning breathing apparatus, knot tying, placing ladders, pulling hose, making water supply connections, and using the incident command system. Skills and basic knowledge necessary to perform the functions of a fire attack team, as a Firefighter, Engineer and Captain within a series of required multiple company level exercises which include: hose and ladder evolutions, rescue, salvage, overhaul, along with fire attack, control and extinguishment and ventilation techniques for various situations. A Firefighter-I Graduation Certificate is awarded upon successful completion. Students with six months paid experience or 12 months volunteer/work experience may apply for the State Fire Training CFSTES Certificate with proof of current completion of a valid Emergency Medical Technician Certificate. Prerequisites: Fire Service Technology 50, 51, 52, 53, 65, KINFSC, and EMS 81 or proof of current certification as an "Emergency Medical Technician" (All courses completed with a grade "C" or higher). 72 Total Lecture Hours, 135 Total Laboratory Hours

4.00 Units Lecture 2.50 Units Lab

#### Prerequisite

FST 50 - Fire Protection Organization  
with a minimum grade of C  
and

FST 51 - Fire Service Operations  
with a minimum grade of C  
and

FST 52 - Firefighter Safety and Survival  
with a minimum grade of C  
and

FST 53 - Fire Behavior and Combustion  
with a minimum grade of C  
and

FST 65 - First Respond Haz Mat/Incident  
with a minimum grade of C  
and

EMS 20 - Emergency Medical Technician  
with a minimum grade of B  
or

FST FSC1 - Fire Service Conditioning & Physical Agility Development 1  
with a minimum grade of C

#### Grading Methods:

Letter Grade

#### Discipline:

	<b>MIN</b>
<b>Lecture Hours:</b>	72.00
<b>Lab Hours:</b>	135.00
<b>Total Hours:</b>	207.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

**Before entering the course a student should be able to:**

- A. FST50
- B. FST51
- C. FST52
- D. FST53
- E. FST65
- F. EMS20
- G. FSTFSC1

IV. MEASURABLE OBJECTIVES:

**Upon completion of this course, the student should be able to:**

1. work with culturally diverse groups as a team
2. Don a breathing apparatus, face piece, hood, helmet, gloves within one minute
3. perform 1-person, 24' extension ladder raise within one minute
4. perform 2-person, 35' extension ladder raise within one minute
5. perform 1-person 24' straight ladder raise within 30 seconds
6. perform 35' ladder auditorium raise, climb
7. perform 45' bangor (pole) extension ladder raise
8. perform roof ladder building scaling
9. rapel from fifth floor exterior, belay from fifth floor elevator shaft
10. perform parapet roof ventilation, within 3 minute 15 seconds
11. perform 2 1/2" forward lay, live line up the ladder evolution within three minutes
12. perform dual reverse, hosepack attack within 3 minutes 15 seconds
13. tie clove hitch, square knot, overhand safety, figure-8 loop, quick-release half hitch, bowline-on-a-bight, overhand bend and becket bend, each within 30 seconds
14. perform in-service, out-of-service, donut and self-locking donut hose rolls
15. identify, describe various hose, nozzles, fittings, appliances, tools
16. tie-off pike pole, SCBA bottle, hose, axe, ladder for hoisting, each within one minute
17. pull, advance the 1 1/2" live line within one minute
18. make 2 1/2" forward lay connection to hydrant within one minute
19. attach a hose clamp, pull 2 1/2" supply line, connect to the suction inlet within one minute
20. operate and advance charged 1 1/2" and 2 1/2" hose lines
21. make 5" forward lay connection to hydrant within one minute
22. perform 5" forward lay, live line attack, within 2 minutes 25 seconds
23. perform 2 1/2" forward lay, live line attack, within 2 minutes 25 seconds
24. pull, advance, tie-off a 2 1/2" atck line for a poorman's deluge, within 1 minute 30 seconds
25. perform 5" forward lay, hosepack attack, within 3 minutes 35 seconds
26. tie bowline around the waist and don SCBA with face piece for a search, within one minute
27. complete sequential-event, agility exam; 85' ladder climb, 2 1/2" hose pull, wall climb, 2 1/2" hose roll, SCBA donning, hosepack carry, hose roll hoist, sledge hammer swing, Pike pole push-pull, dummy drag within 12 minutes.
28. complete three step-stair walk with 220 passes within 10 minutes
29. perform eight patient evacuation lifts, carries, drags
30. tie army litter with one-point hoisting sling, within one minute
31. tie simulated patient in a stokes basket, within one minute
32. tie bowline on a ladder escort patient and a three-loop bowline on a ladder lowering patient, each within ten minutes
33. tie anchor bowline, one point hoisting sling, litter clove hitches, stokes torso and stokes feet, each within 30 seconds
34. perform vehicle immobilization, door entry, steering column pull, dash roll up with auto extrication tools within five minutes
35. deploy salvage covers, one-person throw, two-person double edge snap throw, three-person splice for catchall and three-person sump, within 5 minutes
36. perform peaked roof ventilation evolution from truck and engine each within three minutes
37. make standpipe supply connections, hosepack deployment, each within two minutes
38. perform axe slicing, chain saw cutting, window breaking
39. control flammable liquid fire with extinguisher
40. perform wyed line attack evolution within 2 minutes 50 seconds
41. perform stokes basket, rappel slope evacuation evolution within five minutes
42. conduct converging and outlying arrival residential fire attack multi-company scenarios
43. conduct converging and outlying arrival apartment fire attack multi-company scenarios
44. extinguish interior, flashover structure fire with hose line
45. build ladder sheerings, ladder gin pole to support a z-rig, confined space entry recovery
46. write the rules for the safe movement and application of ladders
47. calculate the safe working load for various rescue rope applications
48. describe the methods of water supply and fire attack methods
49. communicate on a portable radio, using correct incident command terminology and division locations
50. perform the ICS 100-200 duties in practice
51. describe the components of ten ventilation safety guidelines
52. identify the various salvage and overhaul principles
53. write the principles of building construction, structural integrity and collapse rescue
54. calculate for the effort and the load in mechanical advantage problems

V. CONTENT:

- A. Physical agility
- B. Safety procedures and program orientation
- C. Ladder operations
  1. Terminology
  2. Selection criteria
  3. Construction
  4. Maintenance
  5. Carries and raises
  6. Text
- D. Proper Ladder Placement
- E. Ladder confidence

1. Auditorium Raise and climb
2. Hotel Raise access and egress
3. Roof Ladder scaling
4. Bangor ladder raise and placement
- F. Rope Management
  1. Construction
  2. Maintenance
  3. Safe working load
  4. Knot tying and tool hoisting
  5. Applied
  6. Knots
- G. Breathing apparatus
  1. Safety equipment
  2. Donning procedure
  3. Maintenance and refill
- H. Structure search
- I. Structure search and evacuation
  1. 1-2 and 3 person carries
  2. Patient drags
  3. Patient lifts
  4. Ladder escort and lowering
- J. Auto extrication
  1. Rescue principles
  2. Hurst tool operations
  3. Come-along operations
  4. Porta-power operations
  5. Cribbing procedures
- K. Advancing and operating charged hose lines
- L. Fire protection systems
  1. SHut down and drain procedures sprinkler systems
  2. Sprinkler stops and sprinkler head replacement
- M. Ventilation safety guidelines
  1. Horizontal
  2. Vertical
  3. Positive pressure
- N. Peaked roof ventilation evolution
  1. size up considerations
  2. ladder placement
- O. Parapet roof ventilation
  1. size up considerations
  2. ladder placement
- P. Salvage and Overhaul
  1. Property conservation
  2. salvage cover care and folds
  3. salvage cover deployments
- Q. Building integrity
  1. Construction
  2. Collapse potential
  3. Search and rescue
- R. Forcible entry
  1. Common entry principles
  2. Axe and saw cutting
  3. Window breaking
- S. Flammable liquid fire control
  1. Extinguishing agents
  2. Flammable liquid burn
- T. Rappel and belay procedures
- U. Stokes slope evacuation procedures
- V. Mechanical advantage principles
  1. Lever systems
  2. Pulley power
  3. Z-Rig gain
  4. Hydraulic systems
  5. Pneumatic lifting
- W. Converging and outlying attack scenarios
  1. Residential
  2. Multi-story apartment
- X. Structure Fire Attack
  1. Live fire attack
  2. Interior flashover burn suppression
  3. Multi-company evolutions
- Y. Standpipe attack procedures
- A@. Use Incident Command System
- AA. Confined space rescue
  1. Scene safety
  2. Hauling system construction
  3. Entry and recovery scenario

## VI. METHODS OF INSTRUCTION:

- A. **Classroom Activity** - tool manipulation and exercises
- B. **Observation and Demonstration** - provide skills examples and observe for proper skills development
- C. **Simulations** - Fire ground scenarios to provide skills development
- D. **Individualized Instruction** - Individual use of proper protective equipment and proper tool use and procedures will be constantly stressed for individual safety
- E. **Lecture** - with student questions encouraged
- G. **Audio-visual Activity** - video, overlays and powerpoints

## VII. TYPICAL ASSIGNMENTS:

Student shall demonstrate:

- A. Timed operation of donning breathing apparatus
- B. Ground ladders will be raised in a safe and expedient manner to state standards
- C. Incident command system be put in effect by students during evolution of response scenarios

## VIII. EVALUATION:

### A. **Methods**

1. Exams/Tests
2. Quizzes
3. Simulation
4. Class Participation
5. Home Work
6. Final Performance

### B. **Frequency**

1. Weekly quizzes
2. One Midterm
3. One final written exam
4. Weekly skills assessment and testing
  - a. Skill performance and time standard assessments
5. End of course final multiple scenario performance assessment

## IX. TYPICAL TEXTS:

1. IFSTA *Essentials of Firefighting*. 6th ed., Brady/IFSTA Fire Protection Publications, 2012.
2. Frederick M Stowell, Project Manager Writer, Lynne Murnane, Senior Editor *Essentials of Firefighting and Fire Department Operations*. 6th ed., Brady/IFSTA Fire Protection Publications, 2012.
3. NFPA-International Association of Fire Chiefs *Fundamentals of Fire Fighter Skills*. 3rd ed., Jones and Bartlett, 2013.

## X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. A) Firefighter Academy Uniform Shirt, Tie, Tie-tac, Belt, Ball Cap, Work Boots, Gloves. B) Turnout coat and pants, helmet, turnout safety boots, flash hood (Provided by Academy)