

## **Fire Science Competencies**

1. FIRE SERVICE HISTORY, ORGANIZATION, AND JOB OPPORTUNITIES
  - a. Understands fire service history
  - b. Understands fire department organizations
  - c. Understands national, state and local fire organizations
  - d. Demonstrates knowledge of careers in the fire service
  - e. Understands fire investigations
2. CHEMISTRY OF FIRE EXTINGUISHING AGENTS
  - a. Understands scientific background and fire chemistry
  - b. Demonstrates knowledge of extinguishing agents
3. FIRE SUPPRESSION EQUIPMENT AND TECHNIQUES
  - a. Understands motor fire apparatus
  - b. Demonstrates knowledge of fire department tools and equipment
  - c. Demonstrates use of fire extinguishers
4. HOSE EVOLUTIONS AND HYDRAULICS
  - a. Understands basic and advanced hose evolutions
  - b. Understands above ground hose evolutions
  - c. Understands hydraulics - basic - “rule of thumb”
  - d. Understands pumping and pump operations
5. FIRE DEPARTMENT GROUND LADDERS
  - a. Understands ladder terms, definitions and construction
  - b. Understands straight ladder evolutions
  - c. Understands extension ladder evolutions
  - d. Understands hose lines on ladders
  - e. Understands aerial ladder techniques
  - f. Understands ladder rescue techniques
6. UNDERSTANDS USE OF ROPES, KNOTS AND HOISTING EQUIPMENT
7. DEMONSTRATES USE OF BREATHING APPARATUS
8. FIRE SUPPRESSION EQUIPMENT AND TECHNIQUES
  - a. Understands fire department tools and equipment
  - b. Demonstrates forcible entry techniques
  - c. Demonstrates salvage practices
  - d. Demonstrates ventilation practices
  - e. Demonstrates overhaul practices
9. UNDERSTANDS FIRST AID AND RESCUE PRACTICES
  - a. Demonstrates structural and rescue practices
  - b. Demonstrates vehicle rescue practices
  - c. Demonstrates personal safety
10. BOARDS EXAMINATION

- a. Understands oral boards examination
  - b. Understands test taking procedures, review methods and testing requirements
11. DEMONSTRATES COMPETENCE IN CARDIO-PULMONARY RESUSCITATION FOR ADULT, CHILDREN AND INFANT THROUGH THE AMERICAN HEART ASSOCIATION
  12. UNDERSTANDS WILD LANDS FIRE PROTECTION TECHNIQUES
  13. UNDERSTANDS FIRE PROTECTION SYSTEM
  14. FIRE PREVENTION
    - a. Understands fire prevention
    - b. Understands codes and ordinances
    - c. Understands inspection practices
    - d. Understand California fire incident reporting system
  15. MUNICIPAL FIRE DEFENSE
    - a. Understands municipal water supplies
    - b. Understands ISO grading schedule
  16. BUILDING CONSTRUCTION
    - a. Understands common construction practices
    - b. Understands codes and ordinances
    - c. Participates in field trip to new construction site
  17. DEMONSTRATES FIRE STATION MAINTENANCE PROCEDURES
  18. UNDERSTANDS AUTOMOTIVE FIRE APPARATUS PREVENTIVE MAINTENANCE
  19. UNDERSTANDS FIRE DEPARTMENT TOOLS AND HOW TO CONDUCT EQUIPMENT MAINTENANCE
  20. UNDERSTANDS COMPANY INSPECTION PROCEDURES AND PRE-FIRE PLANNING
  21. UNDERSTANDS FIRE HYDRANT TESTING AND MAINTENANCE
  22. UNDERSTANDS FIRE SUPPRESSION ACTIVITIES
  23. UNDERSTANDS FIRE DEPARTMENT RECORDS AND REPORTS
  24. UNDERSTANDS HAZARDOUS MATERIALS
  25. UNDERSTANDS FIRE PREVENTION ACTIVITIES
  26. UNDERSTANDS FIRE ALARM STATION PROCEDURES
  27. UNDERSTANDS FIRE DEPARTMENT PUMPER TESTING
  28. UNDERSTANDS FLAMMABLE LIQUID FIRE CONTROL

29. UNDERSTANDS BREATHING APPARATUS FOR WATER SAFETY
30. UNDERSTANDS FIRE HOSE MAINTENANCE
31. DEMONSTRATES KNOWLEDGE OF FIRE DEPARTMENT PHYSICAL AGILITY
32. UNDERSTANDS ADVANCED AUTO EXTRICATION PROCEDURES
33. UNDERSTANDS FIRE DEPARTMENT EMPLOYMENT TESTING PROCEDURE
34. ESSENTIAL EMPLOYABILITY SKILLS/CAREER PREPARATION STANDARDS
  - a. Demonstrates personal skill development (positive attitude, honesty, self-confidence and time management)
  - b. Demonstrates effective interpersonal skills (group dynamics, conflict resolution and negotiations)
  - c. Demonstrates academic skills, critical thinking and problem-solving in the workplace
  - d. Demonstrates effective communication
  - e. Demonstrates occupational safety issues and observe all safety rules
  - f. Demonstrates career awareness and knowledge of pathways
  - g. Demonstrates ability to adapt to changing technology
  - h. Demonstrates ability to prepare for employment (resume, job application, job interview and portfolio development)