Course Outline for Fire Technology 10

INTRODUCTION TO FIRE FIGHTER I ACADEMY

Catalog Description:
FT 10 - Introduction to Fire Fighter I Academy 1.00 units
This course provides an orientation to the Fire Fighter I Academy and introduces the applied operation and maintenance of basic rescue and fire suppression apparatus and equipment. Topics include radio communications, ropes, ladders, hose, personal protective equipment, tool operations, maintenance, and physical fitness training. This course is required for students preparing to apply to the Fire Fighter I Academy at Chabot College. (May not receive credit if Fire Tech 89 and Fire Tech 51W have been completed.)

Advisory: Eligibility for ENGL 1A, Eligibility for MTH 53
Prerequisite: FT 50 (completed with a grade of "C" or higher) or FT 1 (completed with a grade of "C" or higher) or concurrent enrollment and EMS 1 (completed with a grade of "C" or higher) or concurrent enrollment and FT 88A (completed with a grade of "C" or higher) or concurrent enrollment

Strongly Recommended: EMS 2 (completed with a grade of "C" or higher) and, EMS 2W (completed with a grade of "C" or higher), FT 52 (completed with a grade of "C" or higher) or, FT 2 (completed with a grade of "C" or higher) and, FT 53 (completed with a grade of "C" or higher) or, FT 3 (completed with a grade of "C" or higher), FT 56 (completed with a grade of "C" or higher) or, FT 6 (completed with a grade of "C" or higher), INDT 74 (completed with a grade of "C" or higher)

Grading Option: Pass/No Pass

Discipline:

<table>
<thead>
<tr>
<th>Units</th>
<th>Contact Hours</th>
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<tbody>
<tr>
<td></td>
<td>Week</td>
</tr>
<tr>
<td>Lecture</td>
<td>1.00</td>
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<tr>
<td>Laboratory</td>
<td>1.5</td>
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<tr>
<td>Clinical</td>
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<tr>
<td>Total</td>
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Prerequisite Skills:
Before entry into this course, the student should be able to:
1. state the steps that contribute to wellness and describe their importance in managing stress;
2. describe the importance of communication and documentation for the emergency medical responder;
3. demonstrate an understanding of Infectious disease and Standard precautions;
4. discuss and demonstrate the importance of scene size-up, primary assessment, history taking, secondary assessment and reassessment;
5. explain communication skills of restatement, redirection and empathy;
6. describe the mechanism of injury of musculoskeletal wounds;
7. demonstrate the procedure for positioning, lifting and moving patients;
8. illustrate and explain the history and culture of the fire service;
9. analyze the basic components of fire as a chemical chain reaction, the major phases of fire, and examine the main factors that influence fire spread and fire behavior;
10. differentiate between fire service training and education and explain the value of higher education to the professionalization of the fire service;
11. list and describe the major organizations that provide emergency response service and illustrate how they interrelate;
12. identify fire protection and emergency-service careers in both the public and private sector;
13. define the role of national, State and local support organizations in fire and emergency services;
14. discuss and describe the scope, purpose, and organizational structure of fire and emergency service facilities, equipment, and apparatus;
15. compare and contrast effective management concepts for various emergency situations;
16. compare and contrast effective management concepts for various emergency situations;
17. describe the importance of wellness and fitness as it relates to emergency services.
18. demonstrate competency with the single person 24 foot aluminum extension ladder evolution: lift, carry, place, pivot, raise, extend, retract, lower and return, utilizing proper technique and without safety failure;
19. demonstrate competency extending and retracting a 24 foot aluminum extension ladder utilizing proper technique and without safety failure;
20. demonstrate competency raising and lowering a 20 foot aluminum ladder utilizing proper technique and without safety failure;
21. demonstrate competency with the pivot operation utilizing proper technique and without safety failure;
22. demonstrate competency with appliances and hydrant evolutions for safety and proper technique;
23. complete physical assessments and interpret results;
24. develop, set and track appropriate physical and occupational goals;
25. complete a physical capabilities course including charged hose drag, stair climb simulation, ventilation simulation, hose hoist simulation and six foot wall jump for safety and accuracy;
26. demonstrate competency with knots utilized in the fire service.

Measurable Objectives:
Upon completion of this course, the student should be able to:
1. identify the different levels of certification in the Fire Fighter I certification track, the courses and requirements for Fire Fighter I certification, and be able to describe the capstone task book and testing process;
2. calculate fire service mathematic equations to solve for safe working load, mechanical advantage, and fire stream hydraulic problems;
3. don a structural personal protection ensemble including self-contained breathing apparatus (SCBA);
4. operate a portable radio and transmit clear and concise emergency scene messages following standard communication procedures;
5. produce a variety of introductory-level hitches and knots using rope and web strap;
6. demonstrate safe transport, operation, and maintenance of various hand and power tools;
7. demonstrate strength, endurance, coordination, and stamina necessary to perform ladder lift, carry, raise, extension, and lowering techniques under supervision, following all safety and control procedures;
8. demonstrate strength, endurance, coordination, and stamina necessary to perform simple hose lays and advance charged hose line at a beginning level of proficiency.
9. demonstrate strength, endurance, coordination, and stamina necessary to manipulate basic fire suppression apparatus and equipment at a beginning level of proficiency;
10. demonstrate basic forcible entry techniques with hand tools to make entry through a window and a swinging door;
11. relate categories of physical fitness training to various kinds of manipulative tasks required of firefighters;
12. practice regular physical fitness activities including stretching, cardiovascular, and strength training using appropriate techniques;
13. complete the Fire Academy Physical Ability Test to the required performance standard.

Course Content:

Course Content (Lecture):
1. Orientation and administration
   A. Facility requirements
   B. Classroom requirements
   C. Equipment and uniform requirements
2. Fire Fighter I certification process
   A. Levels of certification
      a. Fire Fighter I
      b. Wildland Fire Fighter I
   B. Course requirements
      a. Fire Fighter I
      b. Wildland Fire Fighter I
      c. First Responder Operations
      d. Confined Space Awareness
         a. IS-100 Introduction to Incident Command System
         b. IS-700A National Incident Management System, An Introduction
   C. Capstone task book process
   D. Capstone testing process
3. Health and safety
   A. Common types of accidents or injuries and their causes
   B. Importance of physical fitness and a healthy lifestyle to the performance and duties of a firefighter
   C. Critical aspects of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program
   D. Value of fire and life safety initiatives in support of the fire department's mission to reduce firefighter line-of-duty injuries and fatalities.
4. Structural personal protective ensemble
   A. Components
   B. Protection provided by ensemble
5. Self-contained breathing apparatus (SCBA)
   A. Conditions requiring respiratory protection
   B. Physical requirements of SCBA wearer
   C. Components of SCBA
6. Operating fire department radios
   A. Procedures and etiquette for radio traffic
   B. Routine and emergency traffic
7. Ropes and knots
   A. Types and uses of ropes and knots
   B. Safe working load principle
   C. Difference between life safety and utility rope
   D. Parts of knots
8. Maintenance
   A. Cleaning methods for various tools and equipment
   B. Recording and reporting procedures
9. Water Supply Systems
   A. Types and components of municipal water systems
   B. Procedures and protocols for connecting to a fire hydrant
10. Firehose
    A. Principles of fire streams
    B. Basic water flow hydraulic principles
    C. Types of nozzles
    D. Types, designs, and uses of fire hoses
    E. Fittings, tools, and appliances to support
       a. Hydrant and pump connections
       b. Hose connections
    F. Basic hose rolls, loads, and deployments
    G. Basic inspection, cleaning, and maintenance guidelines
11. Ground ladder operations
    A. Types, parts, and construction features of ground ladders
    B. Uses of ground ladders
    C. Safety limits to the degree of angulation
    D. Hazards associated with setting up ladders
12. Forcible entry
    A. Basic construction of wood-framed swinging doors
    B. Basic construction of double-hung windows
    C. Types and uses of hand and power tools used in forcible entry

Course Content (Laboratory):
1. Health and safety
   A. Stretching
   B. Cardiovascular training
   C. Weight training
   D. Relationship to common fire suppression manipulative tasks
2. Don and doff structural personal protective ensemble
3. Don and doff SCBA
4. Operating fire department radios
   A. Transmit a routine radio report
   B. Transmit an emergency traffic report
5. Ropes and knots
   A. Tie knots with rope
      a. Overhand knot
      b. Square knot with two overhand safety knots
      c. Bowline around waist with an overhand safety knot
      d. Clove hitch with two half hitches on a tool
      e. Figure-8 stopper knot
      f. Figure-8 on a bight with an overhand safety knot
   B. Tie knots with web strap
      a. Overhand bend (water knot)
      b. Cow hitch/lark's foot on hose with clove hitch to balcony railing
6. Hose operations
   A. Connect hose to hydrant for forward hose lay
   B. Connect hose to fire engine pump intake
   C. Make-and-break attack hose couplings
   D. Straight hose rolls
      a. In-service
      b. Out-of-service
   E. Preconnected hose deployment
7. Ground ladder operations
   A. Raise and lower a 20-foot single section ladder
   B. Lift and pivot extension ladder from shoulder carry to flat raise position
   C. Extend and retract fly section of extension ladder
   D. Lift, carry, raise, extend, place, and return 24-foot extension ladder
8. Forcible entry
   A. Force entry on an inward swinging door
   B. Force entry on an outward swinging door
   C. Force entry through a window
9. Complete fire academy physical ability test

Methods of Presentation
1. Lecture/Discussion
2. Presentation of audio-visual materials
3. Online Assignments
4. Problem Solving
5. Practice/Demonstration

Assignments and Methods of Evaluating Student Progress
1. Typical Assignments
   A. Calculate basic hydraulic formulas to determine fire stream.
   B. Using the midpoint of a rope, tie a clove hitch with two half hitches on a pike pole for a hoisting operation.
   C. Connect supply hose to a fire hydrant to support a forward hose lay operation.
   D. Don structural personal protective ensemble with SCBA for fire and rescue operation assignments.
   E. Operate a fire department radio to transmit information.
2. Methods of Evaluating Student Progress
   A. Attendance
   B. Class Participation
   C. Demonstration of practice and skills
   D. Competency
   E. Homework
   F. Quizzes
   G. Critical thinking exercises
   H. Online Assignments
   I. Skills performance examination
   J. Exams/Tests
   K. ATI exams
3. Student Learning Outcomes
   Upon the completion of this course, the student should be able to:
   A. Demonstrate how to perform each of the basic-level equipment operation tasks required for Fire Fighter 1 Academy competency.
   B. Apply cognitive skills involving recall, reading comprehension and reasoning to fire service scenarios based on course content of prerequisite Fire Technology courses at a minimum success level of 80% or greater.

Textbook (Typical):

Special Student Materials
1. Gloves, rope rescue
2. Gloves, structure fire rated
3. Station boots, OSHA
4. Structure fire turnout boots, OSHA
5. Uniform pants
6. Uniform shirt

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