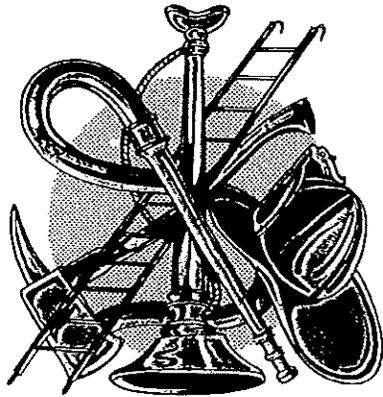


FIRE INSTRUCTOR 1A

Instructional Techniques, Part 1
Student Supplement



published by

STATE FIRE TRAINING

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CFSTES

The California Fire Service Training and Education System (CFSTES) was established to provide a single statewide focus for fire service training in California. CFSTES is a composite of all the elements that contribute to the development, delivery, and administration of training for the California Fire Service. The authority for the central coordination of this effort is vested in the Training Division of the California State Fire Marshal's Office with oversight provided by the State Board of Fire Services.

The role of CFSTES is one of facilitating, coordinating, and assisting in the development and implementation of standards and certification for the California fire service. CFSTES manages the California Fire Academy System by providing standardized curriculum and tests; accredited courses leading to certification; approved standardized training programs for local and regional delivery; administering the certification system; and publishing Career Development Guides, Instructors Guides, Student Manuals, Student Supplements, and other related support materials.

This system is as successful and effective as the people involved in it. It is a fire service system developed by the fire service, for the fire service . . . and we believe it is the best one in the country.

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A C K N O W L E D G E M E N T S

The development of the material contained in this guide was coordinated by the Training Division of the California State Fire Marshal's Office and approved by the State Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS). This curriculum is appropriate for fire service personnel and for personnel in related occupations who are pursuing one or more of the certification programs.

RONNY J. COLEMAN
California State Fire Marshal

STEVE HART, Deputy Chief
State Fire Training

ART COTA, Division Chief
State Fire Training

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AL MORGAN
Santa Clara County Central FPD

CARY ECKARD
Kern County FD

JIM EASTMAN
Sacramento County FPD

ALICIA HAMILTON
State Fire Training

CHUCK WILSON
Vista FD

DAN TINNEL
Office of Emergency Services

JIM SWANSON
Santa Clara County Central FPD

DANA REED
San Jose FD

BILL VANDEVORT
Monterey FD

MICHAEL MARSHALL
Sunnyvale DPS

DAVID GHILARDUCCI
Santa Clara County Central FPD

ED SMITH
Crafton Hills College

BOB BAKER
Santa Ana FD

GEORGE HATT
Ventura County FPD

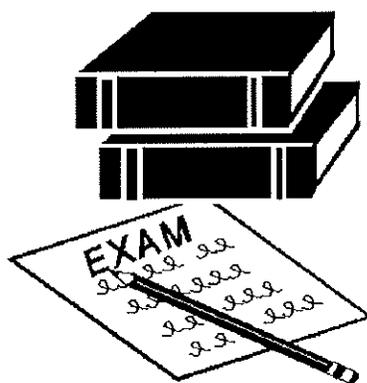
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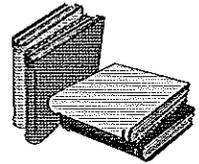
FIRE INSTRUCTOR 1A

Instructional Techniques, Part 1
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CALENDAR OF EVENTS

(One Week Schedule)



SESSION ONE

Date: _____

Topics: Orientation and Administration
Reasons for Fire Instructor 1A
Instructor Qualities and Responsibilities
Course Development and Terminology
Overview
Psychology of Learning
Utilization of the Occupational Analysis
Course Outline Development
Job Breakdown Development

Activity Sheets: 3-1, 6-1, 8-1, 8-2

Information Sheets: 1-1, 2-1, 3-1, 4-1, 5-1, 7-1, 8-1

SESSION TWO

Date: _____

Quizzes: Quizzes #1 and #2
Review

Topics: Presenting the Instruction
Four-Step Method of Instruction
Manipulative Lesson Plan Components
Levels of Instruction
Student Behavioral Objectives
Manipulative Lesson Plan Development

Activity Sheets: 12-1, 14-1, 14-2

Information Sheets: 10-1, 12-1, 13-1, 14-1

SESSION THREE

Date: _____
Quizzes: Quizzes #3 and #4
Review
Topics: Identifying the Impact of EEO and AA
Methods of Manipulative Lesson Plan
Delivery
Methods Used to Evaluate Teaching
Demonstrations
Teaching Demonstrations and Evaluations
Activity Sheets: 17-1
Information Sheets: 15-1, 17-1

SESSION FOUR

Date: _____
Quizzes: Quizzes #5 and #6
Review
Teaching Demonstrations and Evaluations
Course Review
Assignment Sheets: 17-2
Information Sheet: None

SESSION FIVE

Date: _____
Teaching Demonstrations and Evaluations,
if necessary
Course Critique
Certification Examination

POINT SYSTEM

ACTIVITY	POINTS	80%	POINTS EARNED
Course Outline	100	80	
Job Breakdown #1	75	60	
Job Breakdown #2	75	60	
Lesson Plan #1	100	80	
Lesson Plan #2	100	80	
Teaching Demonstration #1	100	n/a	
Teaching Demonstration #2	100	n/a	
Evaluation Report #1	50	n/a	
Evaluation Report #2	50	n/a	
Quizzes and Class Attendance	---		
TOTAL	750		

GRADE SYSTEM

POINTS EARNED

LETTER GRADE

750 - 676

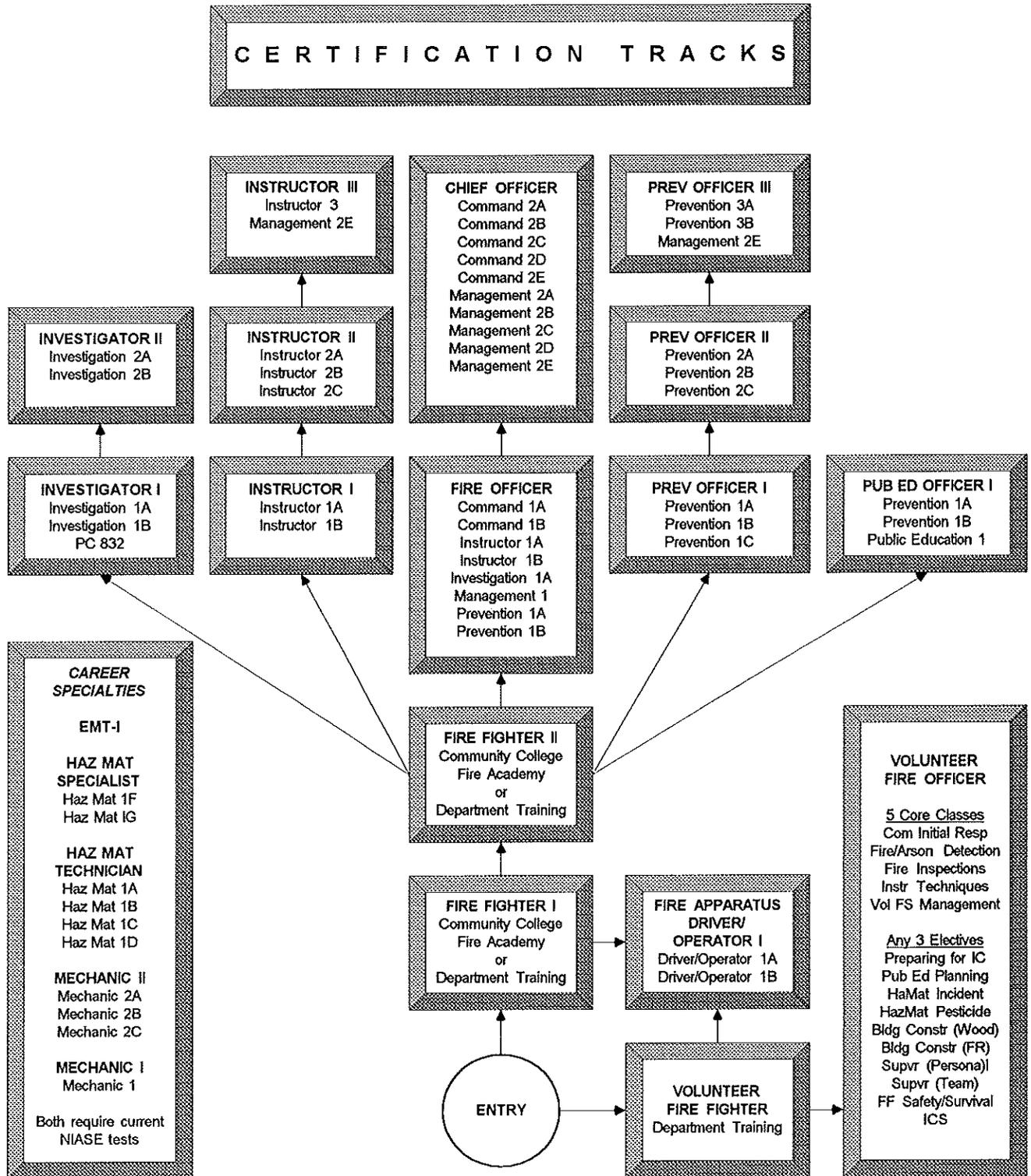
A

675 - 600

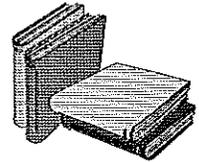
B

Below 600

Not Acceptable for Instructor 1A



THE VALUE OF INSTRUCTOR TRAINING



The past few years have seen many changes in fire service training. Training is now recognized as the key to an efficient fire department, and the training officer is now one of the key persons within the department structure. Promotional opportunities are now open to training officers, and many training officers hold positions as chief officers.

Current Scope of Fire Service Training

For many years, fire service training was concerned mostly with a few basic manipulative skills and was conducted on a department-by-department basis. Now, however, comprehensive training is conducted through multi-department exercises, academies serving all department in some areas, and the fire science programs in many of our community colleges. The academies and community colleges use fire department officers as instructors. Also, many officers are teaching short courses in the fire service training curriculum. These activities demand personnel who have been trained to instruct. Much of the effort of the State Fire Training program is currently directed toward training fire service personnel in the techniques of teaching.

Benefits of an Organized Training Program

A well-organized training program increases the efficiency of the training officer and makes their task easier. It also provides benefits for the fire department, for the fire service as a whole, and for the community served by the fire department.

Benefits for the Training Officer

As improved techniques of teaching are developed, they must be made available to the training officer to develop their instructional skills. This is done through teacher training courses. This type of training will greatly help the training officer provide a better organized program for their department. Improved techniques mean greater efficiency and, therefore, less time spent on instructing. Greater efficiency in instruction means more efficient personnel, with all the accompanying benefits.

Benefits for the Fire Department

A fire department benefits from having a pool of personnel well trained in the art and techniques of teaching. The most direct benefit is better trained personnel who are more efficient in their respective operations. This efficiency has a direct bearing upon public relations; good community relations can and do play a large part in securing the equipment and apparatus necessary for fire suppression work, and they also result in better working conditions for members of the department.

Benefits for the Fire Service

The greater efficiency in fire department operations that derives from well trained personnel benefits the entire fire service. One well trained fire fighter tends to compel other fire fighters to become better trained, similarly, a well-trained department tends to compel others to follow suit. As fire departments become better trained, they become more professional in their attitude and approach to public service. Training officers who know correct teaching techniques are more uniform in their abilities. This results in greater standardization in fire department efficiency.

Benefits for the Community

Instructors trained to teach and personnel wanting to learn are not enough; there must also be a well planned training program that brings together the learner and the instructor. An organized training program enables both learner and instructor to know where to start, their current status, and how far they must progress to meet established objectives.

A planned program greatly helps to ensure that training needs will be met, that necessary skills and knowledge will be acquired, that the more important evolutions will be learned, and that abilities and knowledge will be maintained at the proper level. The end product of learner, trained instructor, and a planned training program can only be an efficient, capable fire department. In turn, this will have a beneficial effect of the entire community, and the benefits can include both reduced fire losses and lower fire insurance rates.

Lower insurance rates: Lower fire insurance rates in a community are not brought about by the effort of a single, well trained department; they are based largely upon fire losses in the state as a whole. As fire service personnel in general become better trained and as the efficiency of the fire service increases, a direct result will be lower fire insurance rates for the state. Efficiency through training can reduce fire insurance costs over a wide area.

Reduced fire losses: If fire losses are substantially reduced, the general economy of the community is improved. More jobs are available, the tax base is more stable, and businesses tend to prosper. Furthermore, community activities can be directed towards improvement instead of rebuilding. The fire department is the one service that protects the heart of any area -- its economy and tax base.

Advantages of Vocational Education Methods

Fire service work does not differ in principle from work performed in any other trade, and the methods used to train personnel in other trades can well be applied to fire service training. The superiority of the vocational method of teaching lies in the on-the-job procedure for teaching a learner. In this approach, the learner learns by doing under the direction of a competent instructor. The learner is given the tools or equipment they are learning to use and is allowed to apply immediately what they have learned. Instruction is limited to that which is necessary to the job.

Vocational training utilizes the four-step plan of teaching preparation/motivation, presentation, application, and evaluation and is primarily directed toward teaching manipulative skills and the related technical information required to perform the skills. Vocational training is recognized as being the best way to teach skills, and it has proved its value in fire service training.

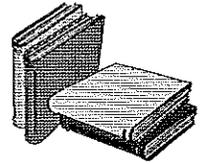
What makes a Good Instructor?

The qualities that a person must have before they can become a good fire service instructor include the ability to get along with people, a willingness to do the necessary preparatory work involved in teaching, and the desire to teach. Another basic requirement is the expertise that comes only from experience in the fire service. Also, since fire service training makes great use of vocational education methods and techniques, a good instructor must have training in these methods and techniques.

Why Enroll in an Instructor Training Course?

The purpose of this course is to provide the potential instructor -- a person who already has an extensive fire service background --- with the ability to teach what they know to others. The philosophy of vocational education is that first, a person who would be an instructor must know their topic, and second, they must learn how to teach. Fire Instructor 1A and 1B can provide the instructor candidate with the ability to train others to better serve their community.

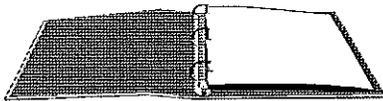
TAKING NOTES



Much of what you learn is lost unless you use it constantly. Keeping notes that are clear and well organized will ensure that the information will always be available when you need it. The practical suggestions outlined in this information sheet will help you get the most benefit from your notes.

What Type of Notebook is Best?

Several varieties of note-taking aids are on the market. The type that seems to fit most needs is the standard 8½" x 11" loose-leaf notebook with a good stiff cover to protect the contents. Such a notebook is large enough to prevent crowding of the material, but is not too large to carry around. It also has the advantage that most handout material can be placed directly in it without alteration. The loose-leaf feature makes organization and reorganization easier, and poorly organized or unnecessary notes easy to discard.



What Notes Should You Take?

You will have to determine for yourself how much information you want to keep in your records for future use. The instructor has a good working knowledge of his/her subject, and they will emphasize important points in various ways.

The following guidelines are helpful in determining what notes to take.

1. Have specific reasons for taking notes. Do not take useless notes; avoid making your notebook a wastebasket for everything.
2. Watch for key words or terms around which the main ideas will revolve.
3. Check carefully everything that the instructor writes down. If the information is important enough for him/her to write down, it is important enough to include in your notes.
4. Be alert for signals of special emphasis by the instructor, such as "This is important..." or "to sum up..."

Use a Simple Outline Form

Note-taking is not difficult if the particular suggestions outlined below are followed. The simple outline form used here for the suggestions can also be used to organize your notes.

- I. Be Ready
 - A. Have a proper notebook (usually an 8½" x 11" loose-leaf)
 - B. Have proper writing implements (colored pencils will aid in recording certain material)
- II. Begin with a Heading (this will aid remembering)
 - A. Course or subject heading
 - B. Name of instructor and title

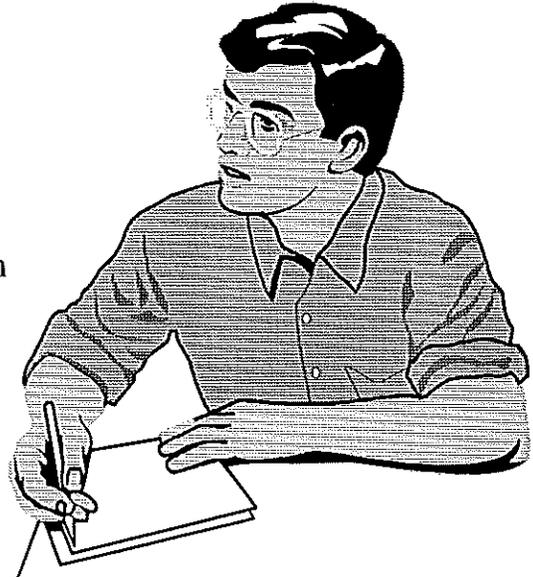
- C. Date
- D. Session and page number

III. Be Alert

- A. Catch the key ideas and high points
- B. Write fast

IV. Be Brief

- A. Use abbreviations
- B. Use your own shortcuts, but be sure you can interpret them afterwards
- C. Use your own words except for
 - 1. Technical points
 - 2. Definitions
 - 3. Direct statements
- D. Leave plenty of room (at least double space and wide margins) so you can
 - 1. Amend or add to
 - 2. Follow easier during later reference
- E. Underline points that are especially important
 - 1. Colored pencils or pens will be an aid



2. Do not underline too much

F. Identify with a question mark any item that you

1. Are not sure you heard correctly

2. Want to ask questions about later

3. Want to verify later by research

V. Be Orderly

A. Numbering and lettering the items in an outline helps to make clear their relationship

1. Roman numerals I

2. Upper case letters A

3. Arabic numerals 1

4. Lower case letters a

5. Arabic numerals in parentheses (1)

6. Lower case letters in parentheses (a)

7. Brackets []

B. Indent or paragraph to show division

C. Start a new item or a new line

How to Get the Most Benefit from Notes

I. Precautions in Note Taking

A. When taking notes, do *not*

1. Try to write everything
2. Ask the person next to you for information while the instructor is talking
3. Make your notes so brief they lose their meaning
4. Overcrowd your pages
5. Forget to number your pages
6. Forget to underline important points
7. Hesitate to write important points on material handed to you
8. Hesitate to ask questions
9. Repeat notes you have already taken
10. Fail to take good notes when they are necessary

II. To Make Your Notes More Useful

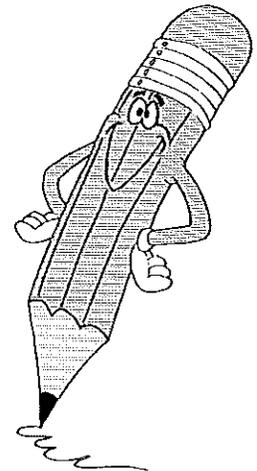
A. Read them over at the first opportunity to

1. Aid recollection
2. Clarify ideas and concepts

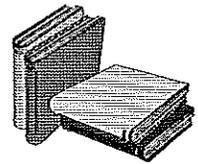
- B. Fill in abbreviated items before too much time elapses; forgetting begins immediately
- C. Fill in technical terms and other items you may have omitted
- D. Rewrite notes if necessary
 - 1. Make sentences complete
 - 2. Recheck topic headings, paragraphing, and numbering
 - 3. Recheck important information with others in class

III. Hints for Good Note Taking

- A. Underline key words and phrases
- B. Keep notes well organized
- C. Rework the notes before they get "cold"
- D. Make use of sketches and drawings
- E. Keep a list of new items and terms
- F. Make a list of important source material, books, references, and the like
- G. Make a list of important persons relating to the subject
- H. Keep notes pertaining to each subject together
- I. When the course is completed, file the notes for future reference



INSTRUCTOR QUALITIES AND RESPONSIBILITIES



"It doesn't matter what the matter is, but the manner in which the matter is presented."

E. James Rohn

This statement can be directly attributed to instructional format or "teaching methods."

Approach

More often than not, the successful instructor is one who knows that to approach a teaching situation effectively, the instructor must:

1. Know the jobs and subjects she/he is to teach
2. Have confidence in their ability to teach
3. Have an agreeable personality
4. Strive to develop proper attitudes
5. Be tactful in difficult instructional situations
6. Deal patiently with all questions asked by learners
7. Assume the responsibility to help the student learn
8. Be patient with slow learners
9. Have a sense of humor
10. Develop the ability to hold the interest of the groups
11. Have enthusiasm for their subject and their work

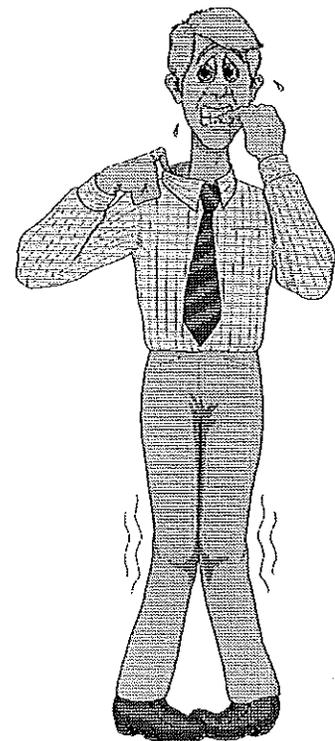


12. Have respect for the other fellow's opinion
13. Be honest when she/he does not know the answer
14. Be careful of their personal appearance
15. Be impartial in dealing with their students
16. Practice good management during all instruction periods
17. Be willing to seek and accept new ideas, methods, and approaches
18. Use good grammar, and choose and pronounce words in accordance with accepted usage
19. Be able to vary their approach to the subject, depending upon the teaching situation
20. Be familiar with the best instructional methods and techniques.

Avoiding Undesirable Mannerisms

A successful teacher avoids mannerisms like the following because they distract their students and interfere with the learning process:

1. Chewing a pencil, toothpick, match, or gum
2. Frowning or glowering
3. Tapping their foot
4. Pacing the floor
5. Snapping their fingers
6. Using profane language
7. Playing with chalk
8. Using the same words over and over
9. Cleaning or biting fingernails
10. Pulling or adjusting clothes



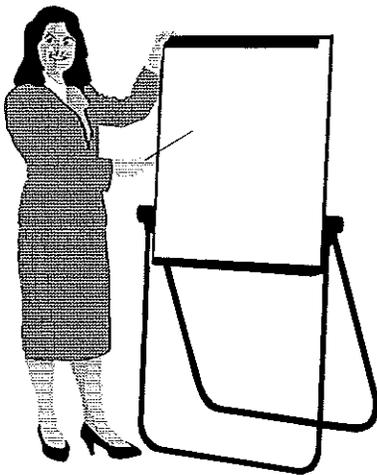
11. Jingling coins or keys
12. Watching the clock too much
13. Fingering jewelry
14. Looking at the ceiling, the floor, or the walls rather than at the learners
15. Using the word "I" constantly

Characteristics of Superior, Good, and Poor Instructors

The characteristics that determine the quality of an instructor -- whether she/he is superior, poor, or somewhere in between --- have been fairly well identified.

The SUPERIOR instructor. The superior instructor is one who:

1. Is liked and respected by their students
2. Acts upon suggestions and criticisms
3. Is well poised and assured
4. Is always dignified and courteous, never sarcastic or rude
5. Succeeds in producing a social situation conducive to learning
6. Knows their subject and related fields well, and translates their knowledge into terms intelligible to their students
7. Can supplement their knowledge readily and upon their own initiative
8. Can and does use a variety of procedures well



9. Is able to modify their plans when the need arises
10. Encourages their students to participate in planning and evaluation, so that learning becomes a cooperative enterprise
11. Knows their students as individuals from study and from observation, and adapts their teaching to them
12. Organizes their class sessions so well that little waste of time and effort occurs
13. Keeps accurate and useful records
14. Ignores trivial matters, but is aware of real difficulties in their incipient stages
15. Deals firmly with the situation if a problem in class control arises
16. Looks behind symptoms for the causes of disciplinary problems
17. Keeps all their students interested and busy in worthwhile activities

The POOR instructor. The poor instructor is one who:

1. Is not liked or respected by their students
2. Alibis and finds excuses when she/he is criticized
3. Is ill at ease in front of a group
4. Is stiff and remote --- or overly familiar --- or is rude, sarcastic, or unfriendly, perhaps through ignorance of common social amenities
5. Is unfair or plays favorites
6. Does not know their field; either cannot or will not fill in the gaps in their knowledge



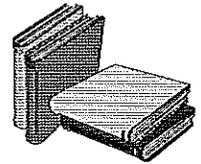
7. Talks in terms unintelligible to their students
8. Cannot distinguish between unimportant details and significant areas of interest



9. Uses few teaching procedures --- and those unskillfully
10. Fails to modify their plans when the need arises
11. Knows little about their students and fails to adapt their teaching to them
12. Merely dictates procedures, or else leaves everything to the class
13. Keeps scanty, inaccurate records
14. Wastes their own and students' time and effort

15. Fusses over trivial matters and does not recognize important ones
16. Uses threats and issues ultimatums which she/he cannot back up
17. Treats symptoms in disciplinary problems and ignores causes
18. Fails to keep the interest and attention of the class

A CHECKLIST FOR INSTRUCTORS ✓



Instructors who are striving for superior status should review the following checklist from time to time. Their goal should be to truthfully answer "yes" to as many of the checklist questions as possible.

I. Personal Characteristics

A. General appearance

1. Is my personal appearance as pleasing as I can make it, and is it appropriate for the classroom?
2. Is my posture correct?
3. Is my uniform or other clothing neat, fresh, and clean?
4. Am I always well groomed?

B. Health

1. Do I have due regard for my health at all times?
2. Do I get enough sleep? Adequate nutrition? Wholesome relaxation?

C. Voice

1. Is my voice effectively pitched and well modulated?
2. Is the quality pleasing?
3. Do I articulate distinctly?

D. Personal qualities

1. Am I courteous in my relations with learners, with other instructors, and with those in authority?
2. Do I avoid coarseness in my manner and conversation?
3. Do I set a good example for my students?

4. Do I find pleasure in my teaching?
5. Am I optimistic and energetic?
6. Am I punctual and reliable in my records and reports?
7. Do I have initiative?
8. Do I have self-reliance?
9. Am I tactful?
10. Do I exercise good judgment?
11. Am I resourceful?
12. Am I able to appreciate the student's side and give sympathetic help if she/he experiences difficulties?
13. Am I cheerful, pleasant, and approachable?

E. English

1. Is my pronunciation correct?
2. Is my enunciation clear and distinct?
3. If I have an accent that makes it difficult for others to understand me, am I trying to correct it?
4. Is my choice, use, and arrangement of words the best?
5. Is my grammar correct?
6. Is my vocabulary adequate and appropriate?
7. Does my written English conform to the standards of correct usage?

II. Professional Equipment

- A. Is my vocational preparation entirely adequate?
- B. Have I received specific training in teaching methods?
- C. Have I mastered the subject matter I am teaching?
- D. Do I have a loyal and cooperative professional attitude?
- E. Do I have the capacity for professional growth?

INSTRUCTOR QUALITIES AND RESPONSIBILITIES



MATERIALS NEEDED:

Fire Service Instructor, IFSTA, 5th Edition
Information Sheet 3-1

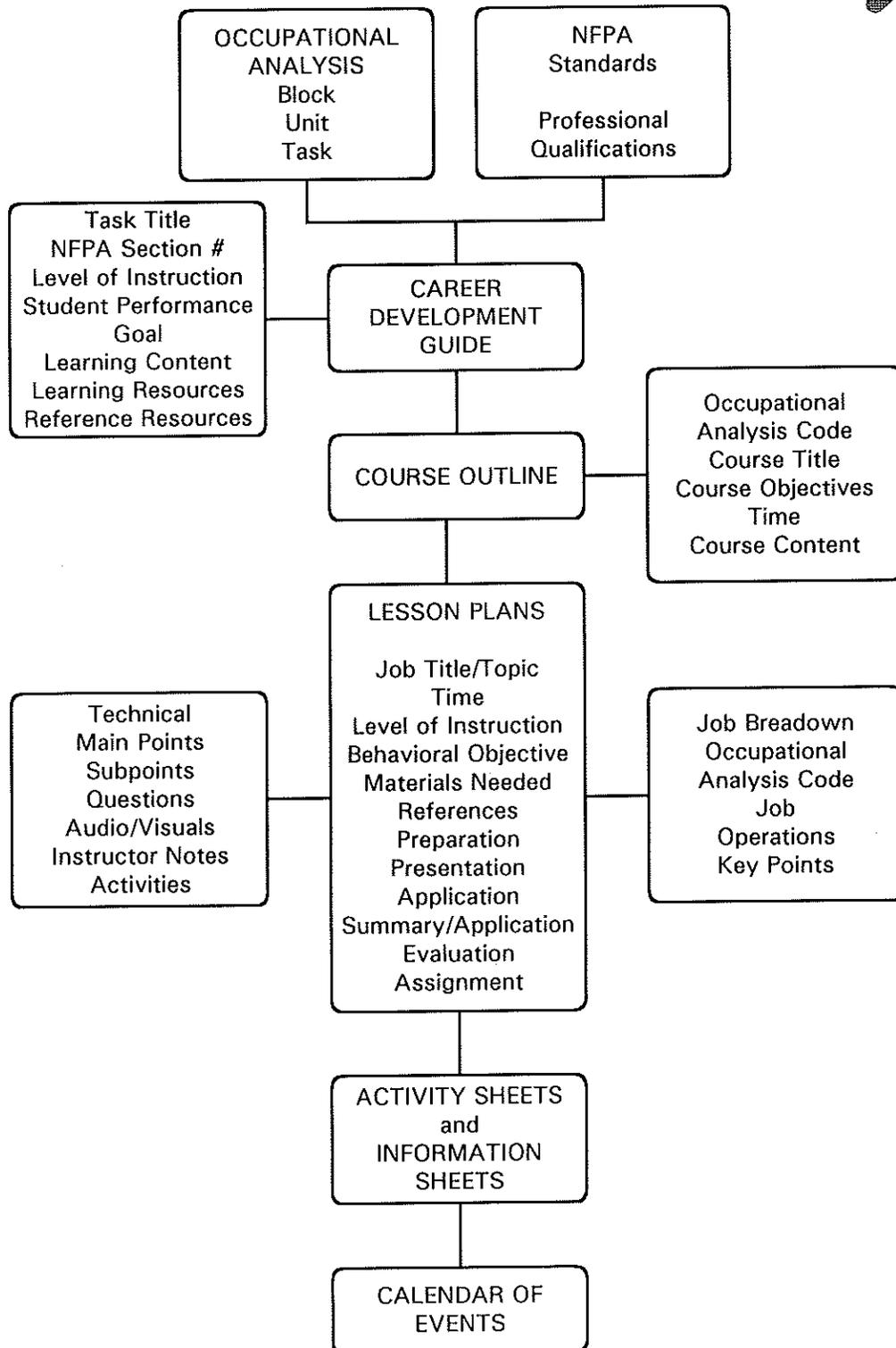
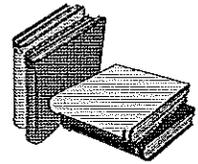
INTRODUCTION:

From the time individuals enter school, teachers play an important role in shaping values, beliefs, and attitudes. Fire service instructors have the same opportunity and can influence personnel at all levels. Fire service instructors are leaders and set the example and should understand their role.

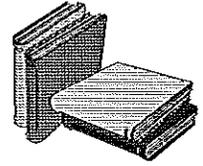
ASSIGNMENT:

1. Divide the class into two groups.
2. Group I will list as many characteristics of *good instructors* as they can in five minutes on the chalkboard or easel pad.
3. Group II will list as many characteristics of *bad instructors* as they can in five minutes on the chalkboard or easel pad.
4. Class will then participate in comparing the lists.





PSYCHOLOGY OF LEARNING



What do you think is the single most overlooked aspect of instruction? This element is so important that it must be considered at every stage of the instructional process. Good instructors will begin considering this element, the teaching-learning environment, when planning their course of instruction. Developing an effective course of instruction requires a knowledge of the concepts of learning discussed in this information sheet.

Instructors must be continually aware of those things that impact their ability to impart knowledge to class participants. The teaching-learning environment may be controlled if the instructor, student, and instructional materials are maintained in a positive mode. Also being constantly aware of resistance to learning, and the factors that contribute to this resistance, will help instructors to reach their desired teaching objectives.

Environmental Aspects of Learning

Environment plays such an important role in teaching and learning that it should be considered at every stage of the instructional process. Instructors must devote a great deal of time and effort to the development of a healthy teaching-learning environment as they teach. In fact, instructors should begin doing this as they plan their course of instruction. Many factors contribute to the teaching-learning environment, but the three strongest influences are the instructor, the student, and the instructional materials. These factors are vital to the learning process, and must be given constant consideration.

The Instructor's Influence

Fire service instructors play an important role in creating and sustaining an environment for learning. Their experiences and abilities to teach will influence the learning environment, either positively or negatively. If the



instructors' experiences and teaching abilities are sound, they will have definite and strong teaching objectives. This will create in their students a sense of direction and a desire to improve their abilities. The instructors' positive influence will encourage each student to identify not only with the fire service as a whole, but with every part of it. For example, the student could comprehend the fact that fire department tools and equipment are only as good as the student's ability to use them.

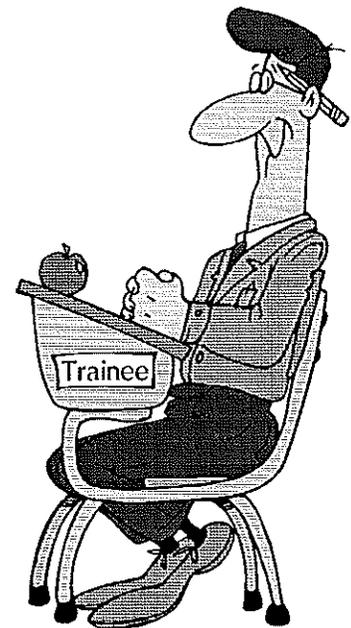
The instructor will recognize that technical information is only as good as the student's ability to apply it. She or he will come to differentiate that their department and the fire service as a whole, are not simply groups of persons working on an individual basis, but a vast group working together as a team.

Instructors' personal philosophies will also have an influence on environmental learning conditions. If they strongly believe that training is important and necessary, their classes and training exercises will prove this. Also, their actions away from the classroom and training grounds will reflect their concern about the need for training.

If there are deficiencies in the instructors' experiences, teaching abilities, and philosophies, their general environmental influence upon learning will be characterized by lack of direction, busywork, and - by the end - a failure of their students to learn.

The Student's Influence

The student in a class has a definite effect upon the environmental aspects of learning. Each student is an individual and is different from every other person, bringing with them to any learning situation their experiences and personal philosophies. If the student's experiences in training and education have developed them in a negative attitude, she or he will transfer this attitude to any new learning situation. Such a student may display negative attitudes by lack of interest, low productivity, inability to be a team member, and lack of appreciation of learning. These conditions will create an environment that is not conducive to learning.



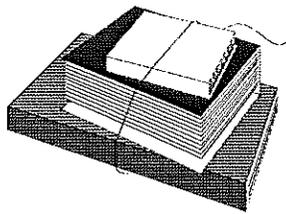
If an instructor is to improve the environmental aspects of learning, the instructor must fully understand and appreciate that each student possesses individual differences. The instructor must strive to change undesirable mental attitudes that a student may have developed, for example, because of unfortunate experiences or exposure to incorrect ideas. Also, the instructor must make a consistent effort to develop healthy attitudes in all their students. No learning environment can be considered effective if student attitudes are not supportive of it.

The Influence of Instructional Materials

It has been shown that the instructor and the student can change and affect the environmental aspects of learning. So can the instructional material. A painter cannot paint well with old, worn out brushes; nor can a mechanic work with broken and odd-sized tools. Likewise, an instructor cannot teach effectively without good instructional materials

prepared for the instructor's subject matter. Students must have instructional materials to read, to follow, to listen to, and to keep as references.

The teaching and learning situation that provides many types of good instructional materials also helps the student develop healthy attitudes



toward learning. When students have good instructional materials to work with, they are more receptive to teaching, their ability to learn is improved, and they are better able to master difficult subject matter. They also take more pleasure in learning. Because good instructional materials contribute to healthy student attitudes, they improve the learning environment.

Instructors who develop, select, or use good instructional materials improve their teaching ability. They will be more at ease before the class, will have more time for individual instruction, and will need less time to teach a specific subject. Furthermore, they will find that their students develop more quickly and more completely.

Whenever a student can see progress within themselves, their attitudes toward learning and toward the instructor become more positive. Good instructional materials play a very important part in developing positive attitudes, and they have a strong influence upon the learning environment.

Resistance to Learning

An effective plan for teaching must take into account the factors that contribute to student resistance to learning. These factors are discussed in the following paragraphs.

Individual Differences

One of the most important requirements for effective teaching is a constant awareness of individual differences. Because of these differences, some students offer more resistance to learning than others. Physical differences such as sight, hearing, and muscle coordination for example, can effect the degree of resistance to learning. So can mental differences, as in IQ, learning ability, analytic ability, and memory. Resistance to learning is also affected by emotional differences, such as maturity, stability, and susceptibility to fear and anger. Because they may be evidenced only at certain times and in different ways, these differences are often hard to recognize.

Conflict

Instructors must also realize that student resistance may be caused by conflict. Conflict in this sense means inner conflict --- a condition created by incompatible forms of motivation. For example, a person may be highly motivated to learn, but the student may also be highly motivated to spend the learning time doing something else. Conflict arises whenever a person must choose between alternatives. Before the instructor can help overcome such resistance, the instructor must work with the student to master the causes of conflict.

Resistance to Change

Learning usually involves the acceptance of new ideas and concepts, and people usually resist change. A common form of resistance to learning in students is a reluctance to accept new situations. This inability tends to obscure the importance and need of a new idea or of a change.

Teaching Adults

The fire service instructor usually works with adults. Teaching adults is a good deal different from teaching young people. To teach effectively, the instructor must understand the resistance to learning that is common in adult students. For example:

1. Adults lose interest quickly unless they can see how learning will benefit them at once.
2. Adults need to be motivated. They must be shown how learning will help them on their job, and they must know how they are progressing. If they are not strongly motivated, they may question the usefulness of the entire learning activity.
3. Adults want lifelike situations in their training. The skills being taught must be those that they will use under actual conditions. Most adults do not want to accept theory until they can see where and how it can be used.
4. Adults want class activities they can participate in; they like to be part of demonstrations and discussions. If the learning situation allows them to solve problems and discuss subject matter, learning will be greatly increased. Many adults have been away from school for a long time and may require retraining in how to take part in class activities.
5. Adults usually differ widely in experience, interests, and abilities, and consequently their resistance to learning also differs. The instructor must adjust course content and teaching techniques to accommodate.

UTILIZATION OF THE OCCUPATIONAL ANALYSIS



MATERIALS NEEDED:

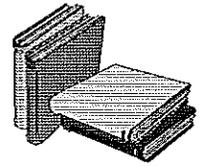
California Fire Service Occupational Analysis, CSFM, 1996

DIRECTIONS:

1. Using the Occupational Analysis, code each of the following jobs by indicating the correct Block number, Unit letter, Task number, and Job letter.
2. For the purpose of this assignment, assume each job is the fifth job for the task.

-
-
1. How to wax floors _____
 2. How to open double-sash windows using pick head axe _____
 3. How to break window using pick head axe _____
 4. How to make a sump using ladders and salvage covers _____
 5. How to take charged 2½" line up a ladder _____
 6. How to operate resuscitator as an aspirator _____
 7. How to perform closed chest cardiac massage _____
 8. How to treat victim of epilepsy _____
 9. How to carry 35' extension ladder, one person _____
 10. How to raise 24' extension ladder, one person _____
 11. How to use ladder as a battering ram _____

COURSE OUTLINE DEVELOPMENT



A credentialed fire service instructor who is teaching personnel in a fire department or at a college is part of Trade and Technical Education. By definition, Trade and Technical Education is instruction designed to develop basic manipulative skills, safety, judgment, technical knowledge, and related occupational information for the purpose of fitting persons for initial employment in industrial occupations and upgrading or retraining workers already employed.

A course outline is a list of manipulative and technical jobs selected from the Occupational Analysis to meet predetermined teaching objectives.

Course outlines in trade and technical education are **performance oriented** rather than subject matter oriented. Every job in a course outline should be taught in such a way that the student will be able to distinguish between doing the job correctly and doing it wrong. If students are to improve with practice, they must be able to recognize acceptable performance.

The following are the **major steps** in developing a course outline:

- ① Determine the need for training
- ② Tentatively identify the course title
- ③ Determine the needs of the students who are to be enrolled in the course

- ④ Develop course objectives
- ⑤ Identify the jobs to be taught based upon the Occupational Analysis
- ⑥ Organize the jobs in **teaching sequence**
- ⑦ Evaluate the tentative course title, and retitle if necessary
- ⑧ Establish tentative teaching time

Determine the Need for Training

Determining the needs of the students to be trained is an essential part of course development. Within school systems, fire science advisory boards may establish the need for a course, or the decision may be left to the individual instructor. The departmental training officer usually has the prime responsibility here, but all department officers have the responsibility to identify training needs as they develop.

Training needs may be obvious. For example, the purchase of a new piece of apparatus or equipment usually calls for training. Many times, however, the need for training will not be so apparent, and it may develop over a long period of time. Information of value in determining training needs including those needs that are not obvious can be obtained through use of training records and surveys, by analyzing diagnostic quizzes, the effects of changes in personnel, equipment, or procedures, and by analyzing any increase in accidents or costs in departmental operations.

Training Records: A review and evaluation of departmental training records may identify areas that have been overlooked in training or that have not been covered in the recent past.

Surveys: A survey-type questionnaire may be used to obtain ideas or suggestions as to what training may be needed. Personal interviews or conferences with key personnel may be extremely helpful, especially in the development of departmental in-service programs. A training survey could also be made in the form of personal observations of performance during drills or actual fireground or emergency operations. Surveys could include personnel tours through local industries to identify any new or exotic products or processes or new construction features that might require the alteration of existing suppression practices or the development of new ones. Surveys may also disclose problems created within the response area by freeways, subways, or airports.

Diagnostic Quizzes: Diagnostic quizzes, both written and manipulative performance, are often used to measure retention of training and to evaluate the readiness of department personnel to proceed to more advanced training.

Personnel Changes: New personnel always require prompt instruction. Promotions or transfers may also create a need for a specific type of training.

Changes in Equipment or Apparatus: If a department acquires new equipment or apparatus or intends to do so, the personnel who will use the equipment or apparatus must be taught the correct procedures for doing so. Any such change may indicate a need for some or all of the personnel in the department to be trained or retrained.

Changes in Procedures: Whenever procedures are changed, people must change. When the personnel of the department can transfer their

knowledge of old procedures to the new procedures, there will be little or no need for additional training. Usually, however, personnel will have a need for some such training.

Increase in Accidents and/or Hazards: An increase in accidents in departmental operations indicates that the personnel have a training need. Technological changes are numerous and rapid in the modern world, and new occupational hazards are constantly arising. Personnel must be properly trained to meet these changes.

Increase in Costs: The cost of fire protection is steadily rising along with other costs. Increasing costs certainly make it imperative to get the most value from personnel and to use equipment to the fullest. An abnormal increase in the cost of departmental operations can alone indicate a need for training.

Tentatively Identify the Course Title

In developing any course outline, the instructor usually has only a general idea at first of what the students need, and therefore the instructor's tentative title should be precise enough to enable them to think in terms of specific areas of the occupation rather than the total field, such areas may be "Pump Operation," "Ground Ladders," and "Hose Evolutions."

Determine the Needs of the Students

Determining the needs of the students is the **most important step** in developing a course outline. In this phase, the instructor identifies what training the students will need to enter the occupation or to continue to function within the occupation. The needs of the students are the basis

for all vocational education. If they are not specifically identified, the course will at least be ineffective and perhaps a failure.

The following are some ways to identify training needs:

- ① Determine the requirements of the student's position or rank or the requirements of tasks they must perform.
- ② Identify the type of students who will be involved (for example - recruits, paid personnel or call personnel)
- ③ Determine the knowledge and skill level of the student by means of standardized tests or teacher-made diagnostic tests, both manipulative-performance and written type
- ④ Make observations to determine potential students' needs at fire stations, on the drill ground, or on the fireground. Watch personnel perform their duties under varying conditions, this may identify definite needs for training.

Develop Course Objectives

Course objectives will determine the specific **scope** of the course. When students' needs are identified or indicated, course material must be developed to meet those needs. Course objectives are developed with only one thought in mind... the needs of the students.

Course objectives are written by **instructors** for **instructors**. They state what skills and knowledge the instructor plans to develop in the students

and what learning experiences the student will be involved in as they progress through the course.

Course objectives establish the **plan of action** for a course. They serve as a guide for the instructor, they determine the specific jobs that must be taught, and they establish the basis from which **student behavioral objectives** can be written. The number and scope of the course objectives is determined by course complexity.

Course objectives must describe what the students will do during the course. Although objectives are not necessarily written in measurable terms, they identify those behavior changes in the students that can be measured at the **end of the course**.

Examples of Course Objectives:

"To provide fire service personnel with a variety of methods and techniques for training their subordinates in accordance with the latest concepts in vocational education."

"To prepare fire service personnel to select, develop, organize and utilize instructional materials appropriate for teaching manipulative lessons."

"To provide fire service personnel with an opportunity to apply major principles of learning through practice teaching demonstrations."

"To prepare fire service personnel with the material and information which leads to Officer Certification within the State of California."

Identify the Jobs to be Taught Based Upon the Occupational Analysis

A course outline includes a list of those jobs that the instructor will teach to help students develop the skills necessary to meet their needs. These jobs are correlated to the tasks in the Occupational Analysis.

Some of the tasks listed in the Occupational Analysis may be performed by learning only one job, while other tasks cannot be performed until as many as twenty (20) jobs are learned. The number of jobs that must be included in the course outline will depend on the department, its fire problems, and the student needs of the department. This also depends to a great extent on the depth to which the instructor plans to develop student ability to perform tasks.

When writing topic titles for the jobs in a course outline, the instructor should use words that give a clear indication of the nature of each job. For example, use the words: "How To" in the titles of all jobs that require manipulative skills. Using the words "How To" for such jobs will make it easier to determine course time, the necessary learning environment, and special equipment requirements.

Similarly, the topic for each technical subject in the course outline should be introduced by such words as "Methods Of", "Reasons For", "Conditions Of." Using such words will also assist instructors in determining total course time, classroom facilities requirements, and instructional material requirements. The topics of some technical subjects may not lend themselves to the exact words suggested here; however, each topic must be written in a manner that specially limits the scope of a lesson.

The following are some examples of topics for manipulative-type jobs:

"How To Raise A 24' Extension Ladder (One Person)"
"How To Couple Hose (Foot Method)"
"How To Deploy A Portable Monitor Unit"
"How To Make A Chute Using A Salvage Cover"
"How To Change A Resuscitator Cylinder"

These are some examples of topics for technical subjects:

"Reasons For Testing Ladders"
"Methods Used In Determining Engine Malfunctions"
"Conducting Exterior Surveys"
"Conditions Requiring The Use Of A Resuscitator"
"Company Run Reports"
"Structure Fire Size-Up"

How To Code a Course Outline

The topics in a course outline should be coded to indicate the **Block** (roman numeral), **Unit** (upper case letter), **Task** (Arabic numeral) and **Job** (lower case letter) in the **Occupational Analysis**. This will help to provide an organized system of handling instructional materials.

All coding in a course outline **should** be placed to the side of the topic in parentheses. The jobs that must be taught within a particular task are designated by lower case letters. For example, if only one specific job should be titled and coded:

"How to Couple Hose (Foot Method)" III-D-1(a)

The III-D-1(a) indicated the Block (III), the Unit (D), the Task (1), and the one specific job (a) that is being taught under the task.

If several methods are to be taught under the task of "How To Couple Hose," the jobs should be titled and coded as follows:

"How to Couple Hose (Foot Method)" III-D-1(a)
"How to Couple Hose (Over-The-Hip Method)" III-D-1(b)
"How to Couple Hose (Two-Person Method)" III-D-1(c)

Note that in the above examples the code for the Block, Unit, and Task is the same for all the jobs. The different methods or jobs to be taught are indicated by the lower case letters following the task number.

Organize the Jobs in Training Sequence

The needs of the students are of paramount importance in determining the teaching sequence for a course outline. Those jobs which a student must know first, should be taught first. The teaching sequence can be established either by the instruction-order or by the production-order method, the first being the one generally preferred.

Instruction-Order Method: In the instruction-order method, the progress of learning should be from **simple to complex** information and jobs, and it should be based upon the interest of the students, the skills needed, task frequency, and job usage. Proceeding from simple to complex in a teaching sequence means, for example, that the student is taught how to identify it before they are taught the theory of its operation.

Interest of the students must be considered because their interest is closely related to their needs. Also, giving early attention to fulfilling their interest will assist you in developing motivation.

Skills needed means that any course of instruction should prepare the students to perform those jobs that they will **need first** within their position in the occupation.

Task frequency means that the jobs a student uses **most frequently** must be the ones taught first. The instructor must also consider those jobs that are seldom performed but that require a high level of proficiency.

Job usage means that somewhere within the course of instruction the students must have an opportunity to **practice** the jobs taught in the course.

Production-Order Method: In the production-order method, the teaching sequence is based upon the order in which jobs must be done under actual conditions and not necessarily in order of complexity, interest, need, frequency, or use. Basically, the production-order method requires that before students can perform certain jobs they must know other jobs first.

Evaluate the Tentative Course Title

The instructor has now determined the needs of the student, written the objectives, and identified the jobs to be taught. This information may indicate a need to select a new title for the course. The new title should be more specific and descriptive than the tentative title first selected. It should serve to limit the scope of the course.

Establish a Tentative Teaching Time

Up to this point, no consideration has been given to the time required to teach a course. This is because it is almost impossible to establish the

teaching time for the course **until** lesson plans and other instructional materials have been developed. However, the time factor must be taken into consideration early in the process of course development; the amount of time available for a course of instruction will influence the course objectives, the teaching methods that will be used, and the lesson plans and instructional materials that will be required to conduct the course.

The instructor should remember too that any course outline is subject to change after actual instruction begins. The many factors that influence teaching time and methods are discussed in detail in subsequent topics of Fire Instructor 1A and 1B.

STD SUPPLEMENT

COURSE TITLE: Function of Ropes, Knots, and Hitches in the Fire Service

COURSE OBJECTIVES: To...

- a) Provide fire service personnel with knowledge of different types of rope and their function.
- b) Prepare fire service personnel with a working knowledge of the various knots and their functions for which they are designed.
- c) Provide fire service personnel an opportunity to apply their knowledge through demonstrations.
- d) Provide fire service personnel with knowledge for maintaining and repairing rope.

COURSE CONTENT:

16:00 HOURS

- 1. Orientation And Administration I-B-3(a) . . . 1:00
- 2. Identify Characteristics Of Rope III-B-1(a) . . . 1:00
- 3. Concepts Of Rope Utilization In the Fire Service . . . III-B-1(b) . . . 1:00
- 4. Identify Rope Tackle Terms And Definitions III-B-1(c) . . . 2:00
- 5. Principles Of Rope Selection III-B-1(d) . . . 1:00
- 6. Principles Of Knot Tying III-B-1(e) . . . 0:30
- 7. How To Tie Clove Hitch III-B-1(r) . . . 0:30
- 8. How To Tie Figure Of Eight III-B-1(g) . . . 0:30
- 9. How To Tie Bowline III-B-1(h) . . . 0:30
- 10. How To Tie Rescue Bowline III-B-1(I) . . . 0:30
- 11. Principles And Concepts Of Anchoring Systems III-B-1(j) . . . 1:00
- 12. How To Hoist Tools And Equipment With Rope III-B-1(l) . . . 2:00

STD SUPPLEMENT

COURSE TITLE: Function of Ropes, Knots, and Hitches in the Fire Service

COURSE CONTENT: (continued)

13.	Principles And Concepts Of Caring For Ropes	III-B-1(m) . . .	1:00
14.	How To Care For And Maintain Ropes	II-B-9(a) . . .	1:00
	Course Review		1:00
	Final Examination		1:00

COURSE OUTLINE DEVELOPMENT



MATERIALS NEEDED:

Fire Service Instructor, IFSTA, 5th Edition

California Fire Service Occupational Analysis, CSFM, 1996

Information Sheet 7-1

INTRODUCTION:

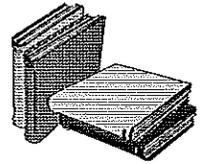
After training needs have been identified, the next step in course development is preparation of a course outline. The course outline serves as a basis for all other planning for the course, including the selection and use of materials, so it must be constructed with utmost care. The jobs listed in a course outline must fulfill the objectives of the course.

DIRECTIONS:

1. Study pages 102-104 in Fire Service Instructor, IFSTA, 5th Edition.
2. Study Information Sheet 7-1, "Course Outline Development."
3. Prepare a course outline for a course between 15-30 hours long and includes:
 - a. A descriptive course title
 - b. A list of the objectives you plan to accomplish in the course
 - c. The jobs you plan to teach, based upon the Occupational Analysis, so that your stated objectives may be reached
 - d. Both manipulative and technical lessons in their appropriate teaching sequence.

4. List, in the right margin, the anticipated instruction time for each job (lesson) covered in the outline.
5. Identify each job by coding it to the Occupational Analysis.
6. Follow the sample course outline in Information Sheet 7-1 as a guide.
7. Submit your completed course outline on _____
(enter session or date)
8. Be prepared for a quiz on course outlines on _____
(enter session or date)

JOB BREAKDOWN



No instructor can teach a manipulative job effectively without first making a careful analysis of that job. Job breakdowns are the process of determining the operations and key points of a job, which in turn are the teaching content for the job.

The basic components of a job breakdown include:

- ① Job Title (UPPER CASE LETTERS)
- ② INSTRUCTOR GUIDE (left margin)
- ③ PRESENTATION (center)
- ④ T-Format (horizontal and vertical lines)
- ⑤ OPERATIONS (left column, centered)
- ⑥ KEY POINTS (right column, centered)
- ⑦ Numerical format for the operations and respective key points

OPERATIONS are verbs or action words	
hold	step
grab	lift
reach	stop
turn	bend
place	pull

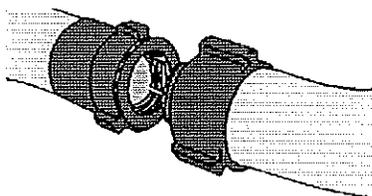
OPERATIONS should have three or four words to describe each step of the way. If you have more than 10 to 14 OPERATIONS in any given manipulative lesson plan, you may be trying to put too much in a lesson.

An instructor or an experienced student should be able to follow the OPERATIONS side of a manipulative lesson plan, while ignoring the key points and still complete the job.

KEY POINTS are the "How To" or the tricks of the trade. KEY POINTS should not have verbs in them. If you have a verb on this side of the lesson plan, reconsider it. It may be an operation.

Examples of Key Points
<p>palm up gently toes facing forward safely back straight looking away</p>

On the following page is the format that meets the minimum standards.



SAMPLE JOB BREAKDOWN FORMAT

INSTRUCTOR GUIDE

HOW TO COUPLE HOSE (STRADDLE METHOD)

OPERATIONS	PRESENTATION	KEY POINTS
1. Straddle hose	1a. 12" behind female coupling	b. Facing coupling
2. Pick up female coupling	2a. With working hand	b. Palm down
	c. Fingers inside	
3. Pick up male coupling	3a. With free hand	b. Palm up
	c. Fingers inside	
4. Inspect coupling	4a. While picking up	b. Gasket
	c. Threads	d. Shape
	e. Any obstructions	f. Visually or by feel
5. Clamp knees	5a. On hose 12" behind female coupling	b. To secure hose and coupling
6. Set threads	6a. Couplings together and levels	b. Counter clockwise optional
	c. Higbee cut	
7. Connect coupling	7a. With working hand	b. Counter clockwise optional
	c. Hand tight	
8. Lay connection down	8a. Gently	b. With hose straight

JOB BREAKDOWN #1



MATERIALS NEEDED:

- Fire Service Instructor, IFSTA, 5th Edition
- Information Sheet 8-1
- Previously prepared course outline

INTRODUCTION:

No instructor can teach a manipulative job effectively without first making a careful analysis of that job. Job breakdowns are the process of determining the operations and key points of a job, which in turn are the teaching content for the job.

DIRECTIONS:

1. Read pages 112-115 in Fire Service Instructor, IFSTA, 5th Edition.
2. Study Information Sheet 8-1, "Job Breakdown."
3. Select and analyze one job from your course outline.
4. Prepare a job breakdown, in duplicate*, following the sample job breakdown in Information Sheet 8-1 as a guide.
5. Submit your completed job breakdown on _____
(enter session or date)

*Duplicate copy is to be kept by student.

JOB BREAKDOWN #2



MATERIALS NEEDED:

- Fire Service Instructor, IFSTA, 5th Edition
- Information Sheet 8-1
- Previously prepared course outline

INTRODUCTION:

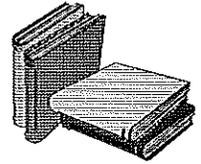
No instructor can teach a manipulative job effectively without first making a careful analysis of that job. Job breakdowns are the process of determining the operations and key points of a job, which in turn are the teaching content for the job.

ASSIGNMENT:

1. Read pages 112-115 in Fire Service Instructor, IFSTA, 5th Edition.
2. Study Information Sheet 8-1, "Job Breakdown."
3. Select and analyze a second job from your course outline.
4. Prepare a job breakdown, in duplicate*, following the sample job breakdown in Information Sheet 8-1 as a guide.
5. Submit your completed job breakdown on _____
(enter session or date)

*Duplicate copy is to be kept by student.

FOUR-STEP METHOD OF INSTRUCTION



Personnel who give fire service instruction rarely think of themselves as teachers. However, anyone who has the responsibility to teach what they know to someone else is an instructor, whether they recognize it or not. Their job is to teach. Fire department officers have a considerable amount of instructional work to do; but before an officer can provide adequate instruction, they must learn a new trade --- *instruction*.

Successful teaching is based upon time-tested principles. During World War I, Charles R. Allen developed a method of training new factory workers that involved four steps: motivation, presentation, application, and evaluation. This four-step method of instruction has been adopted by vocational teachers; and despite efforts to improve upon it, no other method has been as effective to date. It is a principle that has proved itself over more than a half century. A vocational teacher's primary concern is to turn out students who can perform on the job, and they may fail to do this if they overlook or misunderstand any of the important points or steps in the teaching-learning process.

Any problems an instructor may encounter in using the four-step method will be due not to failure of the method itself, but to the instructor's failure to use the four steps properly in various teaching situations. All of the steps are important, but for any given set of circumstances they may not have equal relative importance. For example:

Step 1 may be small,
like this **Preparation**

Step 2 may be larger,
like this **PRESENTATION**

Step 3 is the most important,
like this **APPLICATION**

Step 4 may not need much attention
if Step 3 was successful and may again be small
like this **Evaluation**

These four steps to successful teaching are discussed more fully in the following paragraphs.

Step 1 - Preparation (Motivation)

The first of the four steps to successful teaching is the PREPARATION step, in which the successful instructor always makes a concentrated effort to reach the mind of the learner. Learning cannot take place until the learner is motivated. The instructor must get the student's attention and give them the opportunity to focus it on the new material to be learned.

Step 1 is also used to build a teaching base. The student must **associate** every new idea or job to be learned with something they already know. Therefore, during this step the instructor should relate their lesson to the past experiences and knowledge of the learners.

Although motivation is the **first step** of a lesson plan, writing the motivation is not necessarily the first thing to do in preparing the plan.

Sometimes it is best to write the motivation last and incorporate into it information that will make the job or topic important to the learner.

Step 2 - Presentation

In the PRESENTATION step, instruction takes place or new ideas are presented to the learner. Often-times the inexperienced instructor focuses so strongly on this step that they have little time to devote to the next and most important step of allowing their students to apply or demonstrate the new knowledge they have presented to them.

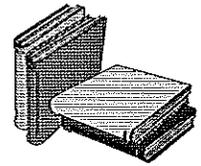
Step 3 - Application

Once again, the APPLICATION step is the most important of the four steps of learning. The job of the vocational instructor is to teach people how to do a job. It is during this step, as the above heading implies, that the learner has the opportunity to apply not only what they have learned but what the instructor has taught. Particularly in vocational training, there is "little learning without some doing."

Step 4 - Evaluation

The purpose of the EVALUATION step is simply to see if the learner can do the job **unaided** or **without supervision**. During the application step, the student performed the job under supervision, but the student did not demonstrate their ability to do the job on his/her own or perhaps to apply the principles in a new situation.

LEVELS OF INSTRUCTION



Educational theorists have identified three major domains in which learning occurs - the cognitive, the psychomotor, and the affective. In the world of Human Resource Development, similar terms are used to describe these learning domains: knowledge, skills, and attitudes. The cognitive domain is concerned with knowledge such as facts and figures. The psychomotor domain is concerned with the development of manipulative skills, while the affective domain is concerned with the development of attitude and feelings. Each of the domains is further broken down into distinct levels of behavior: six for the cognitive domain, five for the psychomotor, and five for the affective. These levels of behavior range from simple to complex.

The three domains, while classified separately, are not mutually exclusive. A single objective may require a student to demonstrate learning that has occurred in more than one domain. For example, if the students were required to raise ladders for rescue, they would need to demonstrate "psychomotor" skills in carrying and raising ladders, "cognitive" skills in selecting the correct size and placement of the ladder, and "affective" values in a demonstrated adherence to proper safety procedures. Yet one single psychomotor objective could cover the process: "The students will raise ladders for rescue." This means that one objective, while on the surface indicating manipulative behavior, may also include behavior in the cognitive and affective domains. After all, in order to perform a skill, we need to know a number of things (such as the correct procedure), and we need to appreciate some things (such as safety) in addition to the physical act of doing the job.

Several years ago fire service educators chose to utilize the Taxonomy of Educational Objectives, developed by Benjamin S. Bloom, et al.

(1958), focusing on the cognitive domain to establish levels of student behavior, known as "levels of instruction." While this system has served as a model for fire service instruction, it has not been without confusion. This is due primarily to: (1) the fact that when these taxonomies were created they were developed for use in secondary schools and colleges. The issue of skills training, or learning in the domain, was not addressed due to the fact that teaching/learning in this domain does not typically occur in the secondary school and college environment, and (2) the levels of instruction were identified and defined in terms of the cognitive learning domain. Problems arise, therefore, when the words "knowledge," "comprehension," and "application" are stretched into the psychomotor and affective learning domains. In the delivery of vocational education, and particularly in fire service training, we find that the approach to these taxonomies and their level of detail may be inappropriate and in some cases unnecessary. For our purposes, a three-level classification system (applicable to each domain) is adequate and appropriate to the majority of learned activities within vocational education. The three levels within this classification system include:

-  **Level I** - **Basic Knowledge**
-  **Level II** - **Competent**
-  **Level III** - **Highly Proficient**

These levels are determined by carefully studying the tasks of the occupation being taught. An occupational analysis will help determine the degree of manipulative skill needed, the technical knowledge required, the frequency with which specific tasks are performed, the hazards inherent in the tasks, and the extent to which specialization is required.

These three levels are roughly comparable to the levels of behavior that have been identified within the three domains. The following matrix

contains the three levels toward which we gear instruction and the levels from the different domains that approximate them.

LEVEL OF INSTRUCTION	COGNITIVE DOMAIN	AFFECTIVE DOMAIN	PSYCHOMOTOR DOMAIN
BASIC KNOWLEDGE	* Knowledge * Comprehension	* Receiving	
COMPETENT	* Application * Analysis	* Responding * Valuing	* Perception * Imitation
HIGHLY PROFICIENT	* Synthesis * Evaluation	* Organizing * Characterizing the Value Complex	* Manipulation * Performance * Perfection

Level I - Basic Knowledge

In the three-level classification of learning, the first level is characterized by the student acquiring new information (cognitive domain) and developing appropriate attitudes (affective domain) as a result of the learning process. In this level, the instructor plays a major role in the teaching-learning process. The instructor serves primarily as a provider of new information to the student by lecturing, assigning course work, and by guiding class discussions. The instructor demonstrates, or has someone demonstrate, the desired skill to the student. The performance of manipulative skills is typically not taught or evaluated at this level of instruction.

As the student acquires information, the instructor confirms retention by having the student answer questions, take written tests, participate in group exercises and discussions. Students can name parts, tools, and equipment, remember facts, and follow step-by-step procedures.

Evaluation of student progress is relatively easy at this stage because the student is expected to do little more than memorize data. Objective tests, therefore, require the student to either recognize the correct answer or to supply (recall) the answer to a statement or question.

Level II - Competent

The second level of learning, called "competent", concerns the depth to which a student successfully recalls something which has been learned previously. It is here that technical information is connected to performance in the field. At this level the student begins to understand the relevance of particular segments of information to given situations. The instructor thus requires the student to take from the information previously learned and apply facts to prescribed problems. The student is required to make choices and to disregard irrelevant data. At this level of instruction, manipulative skills are developed to a level of "competency." Students can perform all parts of the job or skill and need only a spot check of completed work. They also meet minimum acceptable demand for speed and accuracy.

As the student begins to now apply previously learned skills and concepts, the instructor also begins to switch emphasis. Although the "how to" mode is still reinforced, the instructor moves into more of a "why" mode, explaining why certain actions are taken. Questioning focuses on confirming that the student understand concepts and their application to actual day-to-day work. Here the student is required to justify the approach taken to solve a problem, and the process becomes as important as the solution. Students can now explain why and when the job must be done and why each step is needed. They can also explain the relationship of facts and describe general principles about the subject.

In the second level, testing becomes more complex because objective evaluation of understanding is more difficult. Written tests require the student to select and apply specific facts from a wide body information and apply them to a sampling of similarly structured problems and situations. Some subjectivity is not only appropriate, but often necessary to probe the student's mind to confirm understanding. In subject areas that require a shift in attitude from "noncommittal" to an unwavering adherence to organizational and safety rules, testing continues to grow more complex. Tests are now designed to confirm that the student has developed a commitment, and will not deviate from the rules, even under pressure. Manipulative tests in this level focus on competence. Given appropriate tools and equipment, the student is expected to use them safely and effectively in order to achieve an overall objective. Evaluation of skill performance focuses on the student's approach to the situation, ability to meld several skills into productive work, and expediency (with time as a parameter) for completing the assigned task.

Level III - Highly Proficient

The top level of the three-level classification system is termed "highly proficient." This level denotes the process by which a student, faced with a new problem or situation, has the ability to recognize common factors and bring new sources and types of information to bear on the situation. At this level, knowledge and skills are learned is sufficient breadth and depth for the student to transfer earlier learning to a new set of circumstances, including reflecting on the consequences expected if an action is taken. Manipulative skills are developed whereby performance is efficiently and smoothly executed.

At this point, the student is expected to bear more of the burden for skill and knowledge development, with the instructor serving less a provider and more as a monitor and facilitator. The instructor directs

the student toward independent study to search for data that will deepen conceptual understanding. The instructor challenges the student with increasingly complex and unique problems that require a multi-faceted approach to the solution. More time is spent by the instructor in observing student performance in simulations, in probing the student's reasons for taking a particular action, and testing adaptability to quickly changing situations. The student is required to pull information from different subject areas, develop a solution based on accepted principles, and apply it in an appropriate manner to the problem.

Students are able to complete manipulative performance skills quickly and accurately as well as tell or show others how to do the job. In addition to evaluating conditions and making proper decisions, they can predict and resolve problems about the job. They can also analyze facts and principles to enable them to draw conclusions about the subject.

Evaluation at the third level is no longer restricted to the classroom or the training ground. Because the student is expected to function independently with little or no supervision, performance must be observed in all types of situations, both simulated and real. This will confirm that the student is able to react, under pressure, to any situation and perform consistently with high proficiency. The evaluation system must include written tests and exercises, performance tests (including individual, company and multi-company evolutions) and recorded observations that look into the day-to-day performance of duties.

When describing activity within a level of instruction and consequently writing student behavioral objectives, consider using descriptive verbs associated with any of the three levels of instruction. For example, an objective written for a Level I job, basic knowledge, may include a choice of "action verbs" from the list of verbs from each domain for that level.

Action verbs that may be used to describe expected student behavior include:

LEVEL I - BASIC KNOWLEDGE		
COGNITIVE DOMAIN	PSYCHOMOTOR	AFFECTIVE DOMAIN
define	NONE	observe
memorize		be conscious
repeat		realize
list		be sensitive
name		attend to
relate		listen
restate		discriminate
discuss		remember
describe		prefer
recognize		
explain		
express		
identify		
locate		
report		
review		
tell		

LEVEL II - COMPETENT		
COGNITIVE DOMAIN	PSYCHOMOTOR	AFFECTIVE DOMAIN
translate	find	willing
interpret	locate	comply
apply	observe	obey
employ	recognize	explore
use	sort	engage
demonstrate	build	display
dramatize	demonstrate	practice
practice	express	respond
illustrate	measure	perform
operate	operate	desire
schedule	perform	grow
sketch	use	feel
distinguish	construct	participate
differentiate	draw	responsible
examine	run	enable
analyze		initiate
appraise		examiner
calculate		influence
experiment		accept
test		devote
compare		be loyal to
contrast		assume
criticize		cooperate
diagram		contribute
inspect		volunteer
debate		exhibit
inventory		consider
question		extend
relate		enrich
solve		

STD SUPPLEMENT

LEVEL III - HIGHLY PROFICIENT		
COGNITIVE DOMAIN	PSYCHOMOTOR	AFFECTIVE DOMAIN
compose	build	crystallize
plan	demonstrate	judge
propose	express	relate
design	measure	weigh
formulate	operate	be realistic
arrange	perform	regulate
collect	play	revise
assemble	write	view
construct	construct	approach
create	run	plan
set up	use	arrive
organize	adapt	rely
manage	administer	find
prepare	create	be consistent
judge	manipulate	conscientious
appraise	plan	
evaluate	produce	
rate	promote	
compute	regulate	
value	teach	
revise	draw	
score		
choose		
assess		
estimate		
measure		

You may have been noticed that some of the same words appeared on all three lists, and, in some case, they appeared on the same list at different levels. That is because these words either indicate some type of behavior common to two or more of the domains or a skill that can be achieved at different levels. Always keep in mind what final behavior you wish the students to demonstrate. Think carefully about whether they will be required to use their intellect alone, their feelings, or whether they will have to perform some physical manipulation.

There are some words, however, that should not be used. They include:

know	enjoy	want
understand	comprehend	master
appreciate	believe	perceive
grasp	learn	become

Using any of these words leads to vague and ambiguous student behavioral objectives. Performance must be described as an observable action. It is difficult to observe or measure "understanding." How, for example, does an instructor know when a student "knows" something? The words on the other three lists provide examples of immediately observable behavior. Also, they are more easily measured through the use of objective evaluation instruments.

LEVELS OF INSTRUCTION



MATERIALS NEEDED:

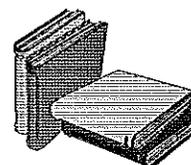
Fire Service Instructor, IFSTA, 5th Edition
Information Sheet 12-1

DIRECTIONS:

Listed below are common lesson topics that are typically included in training programs. Based on the information provided to you regarding levels of instruction, assign the appropriate level of instruction.

TOPIC	LEVEL
1. Identify classes of fire	_____
2. How to couple hose	_____
3. How to inspect and maintain SCBA	_____
4. Types of fire hydrants	_____
5. Perform triage at an MCI	_____
6. Methods of safe driving	_____
7. How to drive fire apparatus	_____
8. How to operate fire pumps	_____
9. How to fold salvage covers	_____
10. Perform DMV road test	_____
11. How to don SCBA	_____
12. How to ventilate a pitched roof	_____
13. Determine engine pump pressure	_____
14. Types of fire alarm systems	_____

STUDENT BEHAVIORAL OBJECTIVES



Writing learning objectives is a developmental activity that requires changes, refinements, and additions as the writer develops subsequent planning steps. Sometimes it is not until learning activities are being selected or evaluation methods stated that the "real" objectives for teaching a topic become clear. Therefore, expect to start with loosely worded objectives, move ahead in the planning sequence, and then return to spell out the learning objectives in specific detail as each one becomes evident.

Objectives for learning can be grouped into three areas (or domains) and are widely referred to in literature that discusses objectives.

 COGNITIVE

 PSYCHOMOTOR

 AFFECTIVE

Cognitive Domain

The domain to which we give most attention in educational programs is the cognitive domain. This domain includes objectives concerning information or knowledge and thinking along with other intellectual aspects of learning. Bloom and his associates developed a taxonomy for the cognitive domain that is widely used.

The taxonomy (a method or sequential classification on progressively higher levels) is organized within two major groups: (1) simple recall of information, and (2) intellectual activities. Bloom labels the lowest level

"knowledge." The higher mental abilities are classified into five increasingly more intellectual levels; comprehension, application, analysis, synthesis, and evaluation.

Too often major attention is given in a course to the lowest cognitive level which is memorizing or recalling information. One of the challenges in instructional planning is to devise learning objectives and then related activities that can direct students to accomplishments on the higher intellectual levels.

Psychomotor Domain

The second category in which learning objectives may be grouped is the psychomotor domain. This domain handles the skills requiring use and coordination of skeletal muscles, as in the physical activities of performing, manipulating, and constructing. Although no taxonomy is universally accepted for this domain, the most comprehensive classification is by Harrow. Six major classes of physical behavior are recognized.

Affective Domain

The third category of learning objectives is the affected domain. This domain involves objectives concerning attitudes, appreciations, values, and emotions. We talk about this area as being of great importance in education, but it is the one area in which we have been able to do the least, particularly in writing useful learning objectives. Krathwohl and his associates have organized the affective domain into five levels.

The levels of the affective domain, like those of the cognitive domain, form a continuum behavior, from simple awareness and acceptance to

internalization as attitudes that become part of an individual's practicing value system. The problem of translating these feelings is not identifiable and observable behavior makes the writing of attitudinal objectives very difficult.

Interrelation of Domains

Even though we are examining the three domains separately, you should recognize that they are closely related in two ways. First, a single major objective can involve learning in two or even all three domains. Second, attitudinal development may even precede successful learning in the other domains. It is often necessary to motivate learners to want to learn subject matter before instruction can be successful.

Once motivation is established, a well-organized program in which the learner participates successfully usually produces positive attitudes in the learner toward the subject and the instructor.

Instructional Objectives as Learning Outcomes

One common error often found when starting instructional objectives is the type of statement that uses terms of what we, as instructors, are going to do. A more fruitful way to state instructional objectives is in terms of the types of outcomes (end products) we expect from our teachings.

When instructional objectives are stated in this manner, they direct attention to the student and to the types of behavior they are expected to exhibit as a result of the learning experience. Thus, our focus shifts from the instructor to the student and from the learning process to the

learning outcomes. This shift in focus clarifies the intent of our instruction and sets the stage for an evaluation of that instruction.

RELATION OF LEARNING OUTCOMES TO LEARNING EXPERIENCES

STUDENT	TEACHING-LEARNING PROCESS	LEARNING OUTCOMES (End Products)
	Learning experience based on interaction of subject matter, teaching methods, and instruction materials	Knowledge Understanding Thinking skills Performance skills Communication skills Computation skills Work study skills Social skills Attitudes Interests Appreciation Adjustments

Stating instructional objectives as learning outcomes contributes to the instructional process in the following ways:

-  It provides direction for the instructor and it clearly conveys their instructional intent to others.
-  It provides a guide for selecting the subject matter, the teaching methods, and the materials to be used during instruction.
-  It provides a guide for constructing tests and other instruments for evaluating student achievement.

If the expected learning outcomes are conveyed to the student, these outcomes also serve as a guide for the student's learning activities, both in and out of the classroom. The first step is to state the instructional objectives as clearly as possible. Use the following suggestions as a guide to facilitate this procedure.

-  State each objective in terms of student performance (rather than instructor performance).
-  State each objective as a learning product (rather than in terms of the learning process).
-  State each objective so that it indicates terminal behavior (rather than the subject matter to be covered during instruction).
-  State each objective so that it includes only one "general" outcome (rather than a combination of several outcomes).
-  State each objective at a level of generality that clearly indicates the expected learning outcome and that is readily definable by a specific types of student behavior.

A student behavioral objective (performance that is measurable) should be a statement of behavior that instruction is to produce stated in terms of observable or measurable student performance. Unfortunately, there are many words or terms often used that are open to misinterpretation. These are words that should be avoided if the behavioral objective is to possess quality.

Consider the following examples of words that are open to misinterpretation:

- To know
- To understand
- To really understand
- To appreciate
- To fully appreciate
- To grasp significance of
- To enjoy
- To believe
- To have faith in
- To realize

The behavioral objective that communicates best will be one that describes the behavior of the learner well enough to preclude misinterpretation.

The action verb is the key element in stating the specific learning outcomes that define each instructional objective. The selection and clarification of action verbs is a vital step in the preparation of a useful set of objectives. In general, we should select those verbs that (1) most clearly convey our instructional intent and (2) most precisely specify the student behavior we are willing to accept as evidence that the general instructional objective has been achieved. Unfortunately, action verbs vary widely in their ability to meet both criteria.

Given a choice between verbs that clearly convey instructional intent and those that merely serve as behavioral indicators, it would seem best to select the former when stating specific learning outcomes.

Describing the Selected Action Verbs

Greater uniformity in the meaning of specific learning outcomes can also be achieved by describing in specific terms the types of responses that are characteristic of each selected action verb. Clearly stated descriptions of the types to responses encompassed by each action verb contribute to standard usage and prevent much heated debate concerning the domain of behavior a particular verb represents.

Brief descriptions of some commonly used action verbs are presented in Table 1. Note that some action verbs can be represented by a wide variety of responses (identify, construct, etc.) whereas others are very limited in the types of response that can be shown (name). Adding sample test tasks, as illustrated in Table 1, also helps clarify the behavioral response associated with each action verb.

T A B L E 1 : S E L E C T E D A C T I O N V E R B S

ACTION VERB	TYPE OF RESPONSE	SAMPLE TEST TASK
Identify	Point to, touch, mark, encircle match, pick-up	"Put an X under the pick-head axe"
Name	Supply verbal label (oral or in writing)	"What is this type of axe called?"
Distinguish between	Identify as separate or different by marking, separating in classes or selecting out a common kind	"Which of the following statements are facts and which are opinions?"
Define	Supply a description (oral or written) that gives the precise meaning or essential qualities	"Define each of the following terms"
Describe	Supply an account (oral or written) that gives the essential categories, properties, and relationships	"Describe the procedure for setting up the ladder truck for water tower operation"

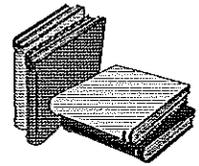
T A B L E 1 : S E L E C T E D A C T I O N V E R B S

ACTION VERB	TYPE OF RESPONSE	SAMPLE TEST TASK
Classify	Place into groups having common characteristics; assign to a particular category	"Write the names of the type of ladders found on a ladder truck"
Order	List in order, place in sequence, arrange, rearrange	"Arrange the following items in instruction order"
Construct	Draw, make, design, assemble, prepare, build	"Draw a schematic of a centrifugal pump"
Demonstrate	Perform a set of procedures with, or without, a verbal explanation	"Set up the truck for water tower operations"

Summary

In summary, action verbs play a key role in stating the specific learning outcomes that define each general instructional objective. Ideally, we would like our selected verbs to both (1) clearly convey instructional intent and (2) precisely specify the expected student performance in behavioral terms. Given a choice between the two criteria, we should favor verbs that most clearly convey instructional intent. When further clarification of the students' behavioral responses is desired, we can do so by (1) describing each selected action verb in more specific behavioral terms, or (2) illustrating the intended learning outcomes with sample test items. These procedures for clarifying the expected student responses provide useful guides for communicating the intended learning outcomes to others and for constructing relevant measuring instruments.

SAMPLE MANIPULATIVE LESSON PLAN FORMAT



INSTRUCTOR GUIDE

HOW TO SPREAD SALVAGE COVER
ROLL WITH ONE PERSON ROLL

<u>TOPIC:</u>	HOW TO SPREAD SALVAGE COVER ROLL WITH ONE PERSON ROLL
<u>TIME FRAME:</u>	0:15
<u>LEVEL OF INSTRUCTION:</u>	Level I
<u>BEHAVIORAL OBJECTIVES:</u>	
Condition:	Given simulated salvage material and one salvage cover
Behavior:	The student will spread the salvage cover over the simulated salvage material
Standard:	Completing all operations within one minute according to the job breakdown
<u>MATERIALS NEEDED:</u>	<ul style="list-style-type: none">• One salvage cover• One table and two chairs per group• Job breakdown (one per student)• Job breakdown for evaluation (one per student)• Timepiece with second hand
<u>REFERENCES:</u>	<ul style="list-style-type: none">• <u>Essentials of Fire Fighting</u>, IFSTA, 3rd Edition
<u>PREPARATION:</u>	Many fire ground factors face the fire fighter today, drawing upon their vast knowledge of fire fighting skills and tasks. A fire fighter can have an immediate impact on the property lost due to smoke, heat, and water damage by implementing early salvage operations., You, as a fire fighter, will increase your personal skills to reduce the overall property lost at your next emergency incident., Better morale and efficiency among fire fighters will be demonstrated by those who reduce fire loss. The end result will be an increase of the public's image of your fire department.

INSTRUCTOR GUIDE

HOW TO SPREAD SALVAGE COVER
ROLL WITH ONE PERSON ROLL

INSTRUCTOR GUIDE

HOW TO SPREAD SALVAGE COVER
ROLL WITH ONE PERSON ROLL

PRESENTATION	
OPERATIONS	KEY POINTS
1. Position body	1a. Facing the salvage cover b. With self centering salvage cover c. With salvage cover on ground d. With rolled flap on bottom
2. Grasp and lift salvage cover	2a. With both hands on ends b. At one end of object to be covered c. Within arm's reach d. Parallel with edge of material to be covered
3. Unroll salvage cover	3a. Rolling towards object to be covered b. With alternating hand rotations c. Until salvage cover touches at the ground level
4. Lay and continue roll	4a. Towards the opposite end of material to be covered b. With both hands alternating c. Until at opposite end
5. Drop remaining roll	5a. To the ground at opposite end b. By pushing roll to fall to ground
6. Unroll any remaining roll	6a. To fullest length b. On the ground c. With knees bent d. With back straight
7. Grasp and open the cover	7a. At nearest end b. Facing salvage cover c. With corresponding hands on respective corners of cover d. By snapping edges outward

INSTRUCTOR GUIDE

HOW TO SPREAD SALVAGE COVER
ROLL WITH ONE PERSON ROLL

OPERATIONS	PRESENTATION	KEY POINTS
8. Grasp and open	8a. At opposite end b. Facing salvage cover c. With corresponding hands on respective corners of cover d. By snapping edges outward	
9. Cover the material	9a. By enveloping the contents b. With loose edges tucked under c. To provide safe passage around all sides of covered material	

INSTRUCTOR GUIDE

HOW TO SPREAD SALVAGE COVER
ROLL WITH ONE PERSON ROLL

APPLICATION:

Instructor will arrange the students so all can see the demonstrations and equipment.

Instructor will demonstrate the job to the entire class twice.

First demonstration will proceed with the instructor verbally reciting all of the operations and key points to the students while performing the job.

Second demonstration will be performed by the instructor as each operation and key point is verbally recited by the students as a group.

Instructor will answer questions during each demonstration.

Each student will perform the skill in accordance to the job breakdown.

Instructor will observe each student perform the skill at least once.

EVALUATION:

Each student will spread the salvage cover completing all operations within one minute according to the job breakdown.

The student will spread the salvage cover without using the job breakdown sheet.

Instructor will not answer questions during the evaluation.

Instructor will evaluate each student individually using the job breakdown checklist and timepiece.

ASSIGNMENT:

Study student handouts and job breakdown.

Continue to practice this job/skill as you will be tested during a final review session and/or for company evolutions.

Read Essentials of Fire Fighting, IFSTA, 3rd Edition, pages 309-310.

MANIPULATIVE LESSON PLAN #1



MATERIALS NEEDED:

- Fire Service Instructor, IFSTA, 5th Edition
- Information Sheet 14-1
- Previously prepared course outline
- Previously prepared job breakdown #1

INTRODUCTION:

A lesson plan is a guide for the instructor. It lists, in an organized sequence, those things that instructors must say and do to help their students learn.

DIRECTIONS:

1. Read pages 104-115 and 141-144 in Fire Service Instructor, IFSTA, 5th Edition.
2. Read Information Sheet 12-1, "Levels of Instruction."
3. Read Information Sheet 13-1, "Student Behavioral Objectives."
4. Study Information Sheet 14-1, "Sample Manipulative Lesson Plan."
5. Prepare an entire lesson plan, in duplicate*, using your previously prepared job breakdown #1 for the presentation step.
6. Follow the sample lesson plan format in Information Sheet 14-1 as a guide.
7. Submit your completed manipulative lesson plan on _____
(enter session or date)

*Duplicate copy is to be kept by student.

MANIPULATIVE LESSON PLAN #2



MATERIALS NEEDED:

- Fire Service Instructor, IFSTA, 5th Edition
- Information Sheet 14-1
- Previously prepared course outline
- Previously prepared job breakdown #2

INTRODUCTION:

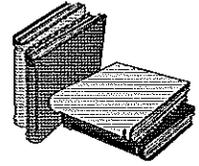
A lesson plan is a guide for the instructor. It lists, in an organized sequence, those things that instructors must say and do to help their students learn.

DIRECTIONS:

1. Read pages 104-115 and 141-144 in Fire Service Instructor, IFSTA, 5th Edition.
2. Read Information Sheet 12-1, "Levels of Instruction."
3. Read Information Sheet 13-1, "Student Behavioral Objectives."
4. Study Information Sheet 14-1, "Sample Manipulative Lesson Plan."
5. Prepare an entire lesson plan, in duplicate*, using your previously prepared job breakdown #2 for the presentation step.
6. Follow the sample lesson plan format in Information Sheet 14-1 as a guide.
7. Submit your completed manipulative lesson plan on _____
(enter session or date)

*Duplicate copy is to be kept by student.

IMPACT OF SOME CONSTITUTIONAL TEXTS ON THE INSTRUCTOR



The Constitution of the United States has provided for the equal treatment of all persons. The traditional American recognition that true equality, particularly true racial equality, derives from the freedom, respect, and responsibility that can only be accorded to individuals.

With all the laws, amendments, and executive orders that have passed as regulations since 1964, it has been reiterated that it is against the law to discriminate in the employment process based on race, sex, national origin, religion, age, physical and mental disabilities, citizenship, and veteran status.

The following information presents some excerpts from the Amendments of the United States Constitution, which refer to individual rights.

Fifth Amendment

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty or property, without due process of law; nor shall private property be taken for public use without just compensation.

Thirteenth Amendment

Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

Congress shall have the power to enforce this article by appropriate legislation.

Fourteenth Amendment

Section One

All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty or property, without due process of laws; nor deny to any person within its jurisdiction the equal protection of the laws.

Section Five

The Congress shall have power to enforce, by appropriate legislation, the provisions of this article.

Fifteenth Amendment

The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude.

The Congress shall have power to enforce this article by appropriate legislation.

Title VII of the Civil Rights Act of 1964, as amended in 1972, prohibits discrimination because of race, color, religion, sex, or national origin in all employment practices.

Political Viewpoint

In 1965, President Lyndon B. Johnson delivered a speech, in which he said in part:

"You do not take a person who, for years, has been hobbled by chains and liberate him, bring him up to the starting line of a race and then say, 'You are free to compete with all the others,' and still justly believe that you have been completely fair.

"Thus it is not enough just to open the gates of opportunity. All of our citizens must have the ability to walk through those gates.

"This is the next and more profound stage of the battle for civil rights. We seek not just freedom but opportunity --- not just legal equity but human ability --- not just equality as a right and a theory, but equality as a fact and a result."

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is one of the most significant employment laws in American history. However, because of the expansive definition of who is disabled, it may cover even more.

Fire service trainers should be cognizant of the specific applicants of the ADA to training and testing programs. Program design should include an ADA compliance review. The following information is provided as an overview only.

I. Employment Discrimination Outlawed

Title I of the ADA prohibits discrimination against a "qualified individual with a disability" with regard to job application procedures, hiring training, compensation, fringe benefits, advancement, or any other term or condition of work. An employer cannot discriminate in any aspect of employment because of a job applicant's or employee's disability.

In addition to the overall prohibition against discrimination, the ADA lists the following acts as discriminatory and illegal:

1. *Limiting, segregating, or classifying a job applicant or employee based upon a disability that in any way adversely affects the employment opportunities or status of the individual.* This rule applies to all job-related activities. For example, limiting the type of work that is offered to disabled people based on an employer's assumptions concerning the abilities of a disabled person is a violation of law. Placing disabled workers in a special section of the workplace or on a separate assembly line will usually violate the law. The use of separate pay or promotion tracts for disabled and nondisabled workers violates the ADA. The law also forbids separate lunch, break, or rest rooms, unless necessary as a reasonable accommodation. Even social and recreational activities provided to employees must be made accessible to all, if possible.

2. *Entering into contracts or other arrangements with third parties that have the effect of subjecting an employer's workers to discrimination based upon disability.* Although this does not require a company to protect a subcontractor's or supplier's employees, it does mandate that employers insure that subcontractor or other outsiders used by the company do not discriminate against the firm's own workers. For instance, a company that hires outside consultants to conduct a supervisory training program is legally responsible if the consultants discriminatorily segregate a disabled supervisor, or fail to provide a reasonable accommodation for a supervisor's known disability. Company liability can also result when outside employment recruiters, testing consultants, performance evaluation experts, or any other contractors violate the law when dealing with the company's own employees or job applicants.

3. *Utilization of any standards, criteria, or administrative methods that have the effect of discriminating based upon disability, or that perpetuate the discrimination of others.* This provision outlaws a type of discrimination that lawyers call "disparate impact," and it follows the disparate impact principles of Title VII of the Civil Rights Act of 1964. In nonlegal language, this phrase refers to discrimination resulting from a company policy or action that is not intended to be discriminatory, but (1) results in different treatment of a disabled person, as compared to a nondisabled person, and (2) is not based upon a business necessity. To avoid accidentally violating the ADA by using policies that disproportionately impact disabled workers adversely and are not essential to the business, employers must review and make necessary changes in job descriptions, preemployment procedures, personnel record keeping, job evaluations, and many other aspects of employment. Of

particular importance are the ADA's rules concerning hiring and testing.

4. *Excluding or otherwise discriminating against a job applicant or employee because of that person's association with a disabled person or group.* Employers must not base employment decisions upon the disability of an individual's spouse, family member, friend, or live-in mate. Nor can employment decisions be based upon a person's relationship with disability-related groups, charities, or social clubs. For example, it is illegal for an employer to refuse to hire or retain an individual because he or she lives with a person with AIDS or is active in AIDS-related organizations.

5. *Not making reasonable accommodations for the known disabilities of job applicants and employees.* Almost as significant as what the law requires is what it does not require. The ADA does not require affirmative action plans, preferential treatment of disabled job applicants and employees, or expensive accommodations or modifications of current workplaces. Nor does the law require new record keeping or governmental reporting requirements. Furthermore, the Act does not require the hiring or retention of unqualified individuals, and it does not provide an excuse for poorly performing or disruptive employees. Once necessary and reasonable accommodations are provided, the ADA provides that disabled workers be treated just like nondisabled workers.

II. Definition of Disabled

A disabled person is one who has a physical or mental impairment that substantially limits a major life activity, a person who has a past record of such an impairment, or a person who is regarded by

other people as having such an impairment. This definition matches the definition of a handicapped person under the Federal Rehabilitation Act of 1973. Many state handicapped employment laws also use this definition. The ADA refers to "disabled" people, while the Rehabilitation Act and most state laws use the term "handicapped." The two terms are synonymous.

When the term disabled person is used, most people immediately think of individuals who are blind, deaf, in a wheelchair, or have other serious and obvious medical conditions. These individuals have a condition that easily meets the definition of a physical or mental impairment that substantially limits a major life activity. However, many more people are covered by the definition. Individuals with serious, but inobvious impairments such as cancer, diabetes, mental illness, AIDS or the HIV virus and bad backs are legally disabled. Other individuals with physical or mental conditions that may not be obvious, and may be thought by some to be less serious, may be legally disabled, including individuals with mental depression, colon resections, learning disabilities, and sensitivity to cigarette smoke.

The ADA specifically excludes several physical and mental conditions from coverage. The following conditions are not disabilities.

1. Homosexuality, bisexuality, transvestitism, transsexualism, pedophilia, exhibitionism, voyeurism, and gender identity disorders, if not caused by a physical impairment.
2. Sexual behavior disorders.
3. Compulsive gambling, kleptomania, pyromania, and psychoactive substance use disorders resulting from the illegal use of drugs.



GLOSSARY OF TERMS

ADVERSE IMPACT or ADVERSE EFFECT

A total employee selection process which results in a significantly higher percentage of minorities or women in the applicant population being rejected for employment, placement, or promotion.

AFFECTED CLASS

Members of an applicant group who, by virtue of past discrimination continue to suffer the present effects of that discrimination.

AFFIRMATIVE ACTION

A set of "specific and result" oriented procedures, applied with commitment and good faith, designed to enlarge the opportunity for selection of candidates for hiring and upgrading to include members of the minority community and women. Affirmative action is a kind of "road map" to reach the goal of equal employment opportunity.

AMERICANS WITH DISABILITIES ACT (ADA)

Prohibits discrimination against "qualified individual with a disability".

ARTIFICIAL BARRIERS

Requirements, procedures or standards for employment that are not related to successful performance on the job.

CRITERIA

Quantifiable measures of job performance or success, as indicated in a supervisor's ratings or training grades.

DISCRIMINATION

Instances where there is a higher rejection rate for minority applicants and women, than for nonminorities and men unless the selection procedures have demonstrable validity.

DISPARATE EFFECT

When members of a minority or sex group have been denied the same employment, promotion, transfer, or membership opportunities as have been made available to other employees or applicants.

JOB-RELATED QUALIFICATIONS

Requirements that are realistically related to the actual duties of the job and the actual knowledge and skills required to perform those duties.

MERIT SYSTEMS

Rational selection of the best available to do the job on the basis of ability.

POTENTIAL FOR DEVELOPMENT

The capacity of an individual to absorb training for advancement to more responsible positions.

PREDICTORS

Selection measures such as tests, licenses, interviews, etc.

PROTECTED GROUPS

Groups of people protected by the laws against discrimination.

SELECTION MEASURE

Tests, educational and work history data, interviews, etc.

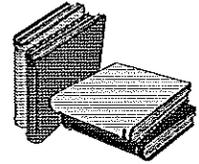
UNDER UTILIZATION

Having fewer minorities or women in a particular job classification than would be reasonably expected by their availability in the work force.

VALIDITY

The extent to which a selection method predicts job success.

SAMPLE TEACHING DEMONSTRATION EVALUATION #1

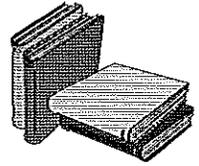


TEACHING DEMONSTRATION EVALUATION	
STUDENT INSTRUCTOR: <i>John Slauson</i>	TOTAL SCORE: <i>17</i>
TOPIC: <i>Hose Threads and Fittings</i>	DATE: <i>10/20/9x</i>
LEVEL OF INSTRUCTION: <i>II</i>	TEACHING TIME: <i>15:30</i>
STUDENT EVALUATOR: <i>Tim Brown</i>	PRIMARY <input checked="" type="checkbox"/> SECONDARY <input type="checkbox"/> THIRD <input type="checkbox"/>
BEHAVIORAL OBJECTIVE(S) GIVEN: <i>Comments</i>	YES (1-5) <input checked="" type="checkbox"/> NO (0) <input type="checkbox"/>
<i>Did not identify the "conditions." Missed "according to" standard.</i>	
PREPARATION: <i>Comments</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input checked="" type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input type="checkbox"/>
<i>Topic title did not match the material given. One life safety advantage related to case history. Told "war stories" only to impress student to want to do a better job.</i>	
PRESENTATION: <i>Comments</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input checked="" type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input type="checkbox"/>
<i>Defined terms and procedures too rapidly. Explained the advantages of in-line pumping; but no disadvantages. Little eye contact with the students. Used the chalkboard to illustrate, but writing was too light for most students to see. Did not use the props he brought.</i>	
APPLICATION: <i>Comments</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input checked="" type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input type="checkbox"/>
<i>Asked overhead questions; when students didn't respond, John moved on with his presentation. Illustrated points on the chalkboard which kept his back to the class. John knew the subject material, but did not involve the class.</i>	
EVALUATION: <i>Comments</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input checked="" type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input type="checkbox"/>
<i>Asked overhead questions; did not redefined technical terms.</i>	
ASSIGNMENT: <i>Comments</i>	YES (1-5) <input type="checkbox"/> NO (0) <input checked="" type="checkbox"/>
<i>Ran over on time and did not give an assignment.</i>	
GROUP EVALUATION: <i>Comments</i>	
<i>John was very nervous and routinely looked at his lesson plan. Many times had lost his place and stumbled over what material to present next. For those students who could see, John has good drawing skills but overused them and this kept his back to the class. He should have used the white board and dark-colored pens so all could see. John is knowledgeable with the subject and he tended to answer his own overhead questions. Use of direct or relay questions would have helped with the application step.</i>	

STD SUPPLEMENT

METHODS USED TO
EVALUATE TEACHING DEMONSTRATIONS

SAMPLE TEACHING DEMONSTRATION EVALUATION #2



TEACHING DEMONSTRATION EVALUATION	
STUDENT INSTRUCTOR: <i>Steve Cardeza</i>	TOTAL SCORE: 45
TOPIC: <i>In-Line Pumping</i>	DATE: <i>10/20/9x</i>
LEVEL OF INSTRUCTION: <i>II</i>	TEACHING TIME: <i>13:50</i>
STUDENT EVALUATOR: <i>Lisa Tarango</i>	PRIMARY <input checked="" type="checkbox"/> SECONDARY <input type="checkbox"/> THRO <input type="checkbox"/>
BEHAVIORAL OBJECTIVE(S) GIVEN: <i>Comments</i>	YES (1-5) <input checked="" type="checkbox"/> 4 NO (0) <input type="checkbox"/>
<i>Missed "according to" standard.</i>	
PREPARATION: <i>Comments:</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input checked="" type="checkbox"/> 9
<i>Topic title matched the material given. Related life safety advantages to case history. Told "by learning this" students would be able to do a better job.</i>	
PRESENTATION: <i>Comments:</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input checked="" type="checkbox"/> 9
<i>Defined terms and procedures. Explained the advantages of in-line pumping. Kept good eye contact with the students. Used the chalkboard to illustrate.</i>	
APPLICATION: <i>Comments:</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input checked="" type="checkbox"/> 10
<i>Asked questions. Illustrated points on the chalkboard. John explained subject material; generated good group discussion (students really learned something).</i>	
EVALUATION: <i>Comments:</i>	MARGINAL (1-2) <input type="checkbox"/> ACCEPTABLE (3-5) <input type="checkbox"/> ABOVE AVERAGE (6-8) <input type="checkbox"/> SUPERIOR (9-10) <input checked="" type="checkbox"/> 9
<i>Asked overhead questions and redefined technical terms.</i>	
ASSIGNMENT: <i>Comments:</i>	YES (1-5) <input checked="" type="checkbox"/> 4 NO (0) <input type="checkbox"/>
<i>Research topic and get ready for a drill next month at the training center. Should have given source.</i>	
GROUP EVALUATION: <i>Comments:</i>	
<i>Group approved of the presentation, very relaxed presentation. Steve maintained good eye contact with the students. Subject material was given in such a manner that a good genuine group discussion was started; this subject stimulated the students' interest. Made use of the chalkboard to his advantage, but did not over use it. The instructor was knowledgeable with the subject.</i>	

TEACHING DEMONSTRATION EVALUATION #1



MATERIALS NEEDED:

- Fire Service Instructor, IFSTA, 5th Edition
- Information Sheet 17-1
- Blank Teaching Demonstration Evaluation Form

INTRODUCTION:

Evaluations of teaching demonstrations by one's peers can provide the student teacher with a means to improve his or her teaching techniques and identify and correct any distracting mannerisms that the student teacher may possess. Evaluations also give the other students experience in recognizing valuable teaching techniques and the opportunity to improve their own techniques through observation and discussion.

DIRECTIONS:

1. Review Information Sheet 17-1, "Teaching Demonstration Evaluation Form."
2. While watching a student's teaching demonstration, complete a Teaching Demonstration Evaluation form.
3. Conduct a class discussion on your evaluation of the student's presentation.
4. Submit the completed Teaching Demonstration Evaluation form to the instructor.

TEACHING DEMONSTRATION EVALUATION #2



MATERIALS NEEDED:

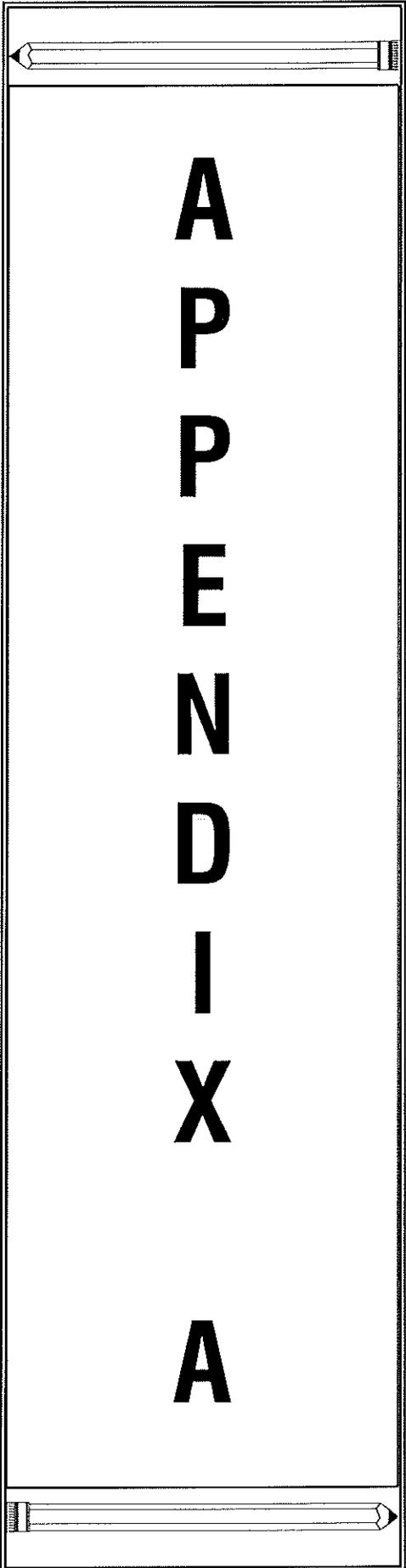
- Fire Service Instructor, IFSTA, 5th Edition
- Information Sheet 17-1
- Blank Teaching Demonstration Evaluation Form

INTRODUCTION:

Evaluations of teaching demonstrations by one's peers can provide the student teacher with a means to improve his or her teaching techniques and identify and correct any distracting mannerisms that the student teacher may possess. Evaluations also give the other students experience in recognizing valuable teaching techniques and the opportunity to improve their own techniques through observation and discussion.

DIRECTIONS:

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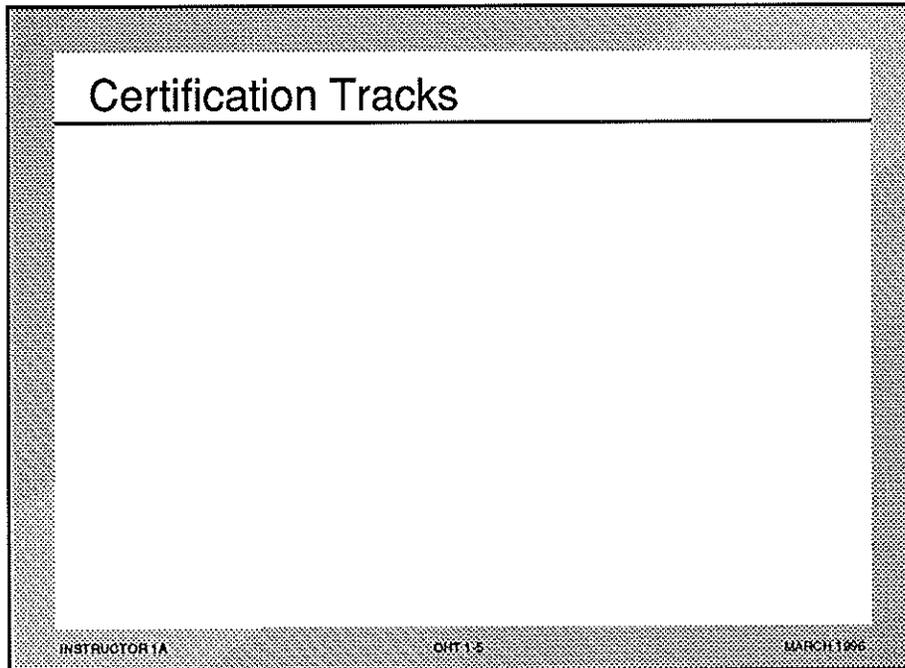
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Job

- An organized segment of instruction designed to develop sensorimotor skills and technical knowledge
- Designated by lower case letters

INSTRUCTOR 1A OHT 6-6 MARCH 1996

Cover Page of Lesson Plan

MULTI-CASUALTY - 809
Lesson Plan # (optional)

TOPIC: ICS-100 Implementation Overview

LEVEL: I

TIME: 1 hour

EDUCATIONAL OBJECTIVE:

Content: A written examination

Behavior: The student will demonstrate a working knowledge on the procedures for implementing the components for a Multi-Casualty Incident.

Standard: With 75% accuracy according to Multi-Casualty Incident Operations Procedure Manual.

REFERENCE: Multi-Casualty Incident Operational Procedures, California Fire Chiefs Association, September 1996
Emergency Medical Services Disaster Medical Annex, County of Sacramento Health Department, April 18, 1997
Incident Command System, Fire Protection Publications, October 1985. Published by California State University, Page 3-48

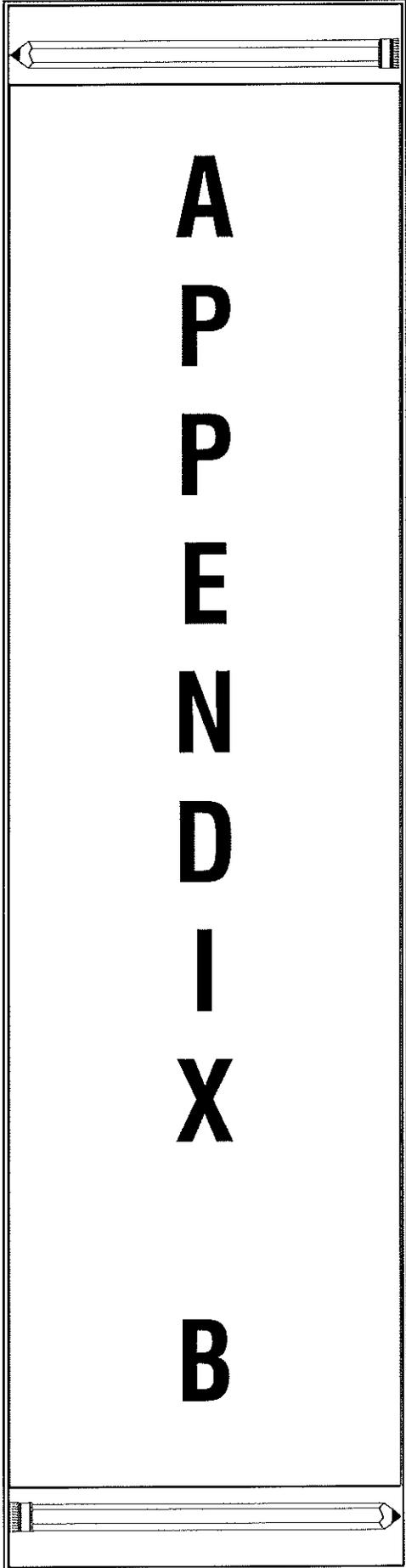
MATERIALS NEEDED: Write person's hand, dry marker, pointer, overhead projector and screen, student handouts, one per student, written exam and writing implement, one per student.

DISCUSSION: In the near future there may be a multi-casualty medical incident requiring all departments' resources. There has already been major medical emergencies that have taxed the fire departments requiring additional units or additional stations. Establishment of operations procedures will provide an organized fire service response to a multi-casualty medical incident and allow the department personnel to participate utilizing the strengths and principles of the Incident Command System.

INSTRUCTOR 1A

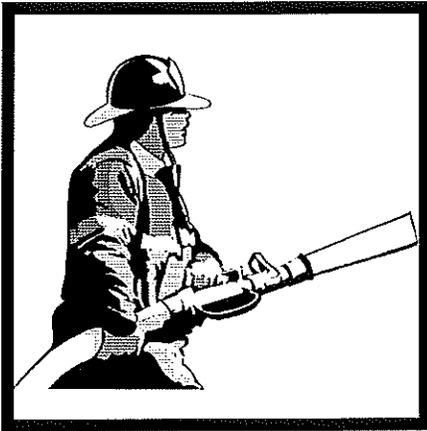
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MARCH 1996



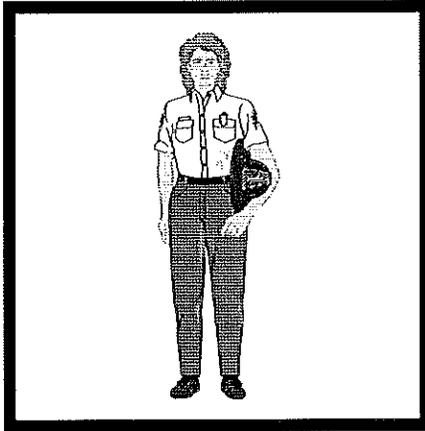
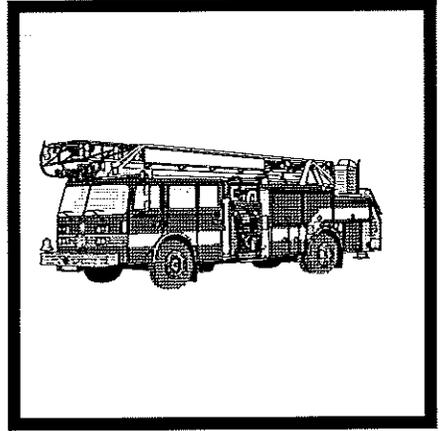
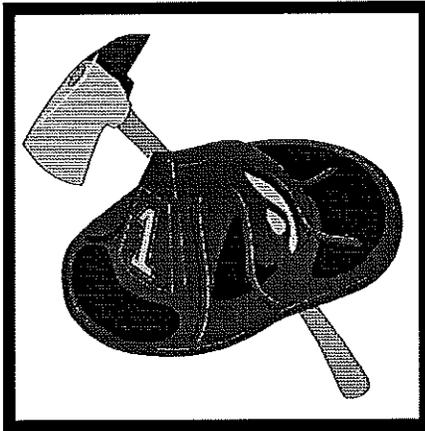
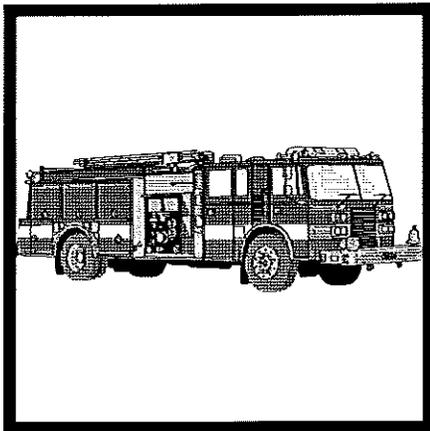
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California Fire Service

OCCUPATIONAL ANALYSIS



An occupational analysis is developed by analyzing a particular occupation in order to determine the knowledge and skills it requires. These factors are incorporated into tasks that personnel in the occupation are required to perform.

The California Fire Service Occupational Analysis will assist in the development of curricula, courses of instruction, instructional materials, and in-service training programs. Fire instruction in California is based upon the Occupational Analysis. Properly prepared course outlines are keyed to the various **Blocks, Units, and Tasks** in the Occupational Analysis.

The last revision of this teaching aid occurred in 1982. Since that time, new information has inundated the fire service profession. Knowledge requirements have escalated and this revision of the Occupational Analysis incorporates much of this new technology.

As a result, the content of the Occupational Analysis has changed. No new Blocks have been added, however, all Blocks have been modified to some degree and three Blocks have been retitled. Additional Units and Tasks have been added to most Blocks, particularly in Block V. And, a few Tasks from the 1982 edition are now obsolete and have been omitted.

It is hoped this edition will more closely reflect the present state of our profession.

O C C U P A T I O N A L A N A L Y S I S

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BLOCK I. ORGANIZATION

UNIT A. LAWS AND REGULATIONS

- TASK
1. Understand applicable federal laws and regulations
 2. Understand applicable state laws and regulations
 3. Understand applicable local ordinances and regulations
 4. Understand government organization structure
 5. Understand fire service agency rules and regulations
 6. Understand and use jurisdictional personnel regulations
 7. Understand provisions of MOUs and labor contracts

UNIT B. PERSONNEL FUNCTIONS

- TASK
1. Identify fire department functions
 2. Identify duties of personnel
 3. Participate in personal and career development programs
 4. Identify necessity for obligation to duty
 5. Participate in department health and fitness programs

UNIT C. PROFESSIONAL ORGANIZATIONS

- TASK
1. Recognize international fire service organizations
 2. Recognize national fire service organizations
 3. Recognize state fire service organizations
 4. Recognize local fire service organizations
 5. Recognize community organizations
 6. Recognize private fire service organizations
 7. Recognize allied agency professional organizations
 8. Recognize labor organizations

BLOCK II. MAINTENANCE AND TESTING

UNIT A. TESTING

- TASK
1. Test hose and couplings
 2. Test nozzles, appliances, and fittings
 3. Test hydrants
 4. Test ropes
 5. Test ladders
 6. Test breathing apparatus
 7. Test emergency medical equipment
 8. Test rescue equipment
 9. Test hand equipment
 10. Test power equipment
 11. Test monitoring and detection equipment
 12. Test protective clothing
 13. Test pumping apparatus
 14. Test aerial ladders and platforms
 15. Test fire alarm equipment
 16. Test sprinkler systems and standpipes
 17. Recognize testing agencies and organizations

UNIT B. INSPECTION AND MAINTENANCE

- TASK
1. Inspect and maintain leather and plastic goods
 2. Inspect and maintain salvage covers
 3. Inspect and maintain hose and couplings
 4. Inspect and maintain nozzles, appliances, and fittings
 5. Inspect and maintain hydrants
 6. Recouple hose
 7. Inspect and maintain hand tools
 8. Inspect and maintain power tools
 9. Inspect and maintain ropes
 10. Inspect and maintain ladders

BLOCK II. MAINTENANCE AND TESTING

- TASK 11. Inspect and maintain lighting equipment
- 12. Inspect and service fire extinguishers
- 13. Inspect and maintain foam generators and proportioners
- 14. Inspect and maintain breathing apparatus
- 15. Inspect and maintain salvage equipment
- 16. Inspect and maintain rescue equipment
- 17. Inspect and maintain ventilating equipment
- 18. Inspect and maintain emergency medical equipment
- 19. Inspect and maintain fire apparatus
- 20. Inspect and maintain power generators
- 21. Inspect and maintain monitoring and detection equipment
- 22. Inspect and maintain protective clothing and equipment
- 23. Inspect and maintain fire alarm equipment
- 24. Inspect and maintain wildland fire fighting equipment
- 25. Inspect and maintain audio/visual equipment
- 26. Inspect and maintain communication equipment
- 27. Inspect and maintain hazardous materials monitoring equipment
- 28. Inspect and maintain miscellaneous fire equipment
- 29. Inspect and maintain fire stations and grounds

BLOCK III. EQUIPMENT OPERATION

UNIT A. FORCIBLE ENTRY AND MISCELLANEOUS TOOLS AND EQUIPMENT

- TASK
1. Operate cutting, boring, fusing, and sawing tools and equipment
 2. Use battering, carrying, digging, prying, scraping, and striking tools
 3. Operate lighting equipment
 4. Operate ventilating equipment
 5. Operate power equipment
 6. Operate drip torch or helitorch

UNIT B. LIFTING, SPREADING, PULLING, AND HOISTING EQUIPMENT

- TASK
1. Use ropes and related equipment
 2. Employ mechanical lifting, pulling, and spreading equipment
 3. Employ hydraulic lifting, pulling, and spreading equipment
 4. Employ pneumatic lifting and spreading equipment
 5. Employ hoisting and pulling equipment
 6. Employ cribbing equipment

UNIT C. EXTINGUISHERS, GENERATORS, AND PROPORTIONERS

- TASK
1. Operate pressure-type extinguishers
 2. Operate pump-type extinguishers
 3. Operate foam and water-additive proportioners and generators

UNIT D. HOSE, NOZZLES, APPLIANCES, FITTINGS, AND OTHER HOSE DEVICES

- TASK
1. Understand fire hose construction and specifications
 2. Couple hose
 3. Roll and fold hose
 4. Carry hose
 5. Reel and unreel hose

BLOCK III. EQUIPMENT OPERATION

- TASK 6. Connect and operate nozzles, valves, fittings, and other hose devices
7. Operate siamese and wyed lines of hose
 8. Extend and reduce hose lines
 9. Load hose on apparatus
 10. Clamp hose
 11. Make hose packs
 12. Replace broken and leaking hose lines
 13. Use hose rollers

UNIT E. HOSE EVOLUTIONS

- TASK 1. Operate hydrants
2. Lay single line of hose
 3. Lay multiple lines of hose
 4. Connect hose lines to auxiliary appliances
 5. Operate master stream appliances
 6. Lay and operate hose lines at street level
 7. Lay and operate hose lines above street level
 8. Lay and operate hose lines below street level
 9. Make simple wildland lays
 10. Make progressive wildland hose lays
 11. Lay and operate hose lays in upslope in terrain
 12. Lay and operate hose lays in downslope in terrain
 13. Operate hose lines used in mobile fire attack

UNIT F. LADDERS

- TASK 1. Remove, carry, and replace ladders
2. Raise and lower ladders
 3. Climb, foot, lock-in on ladders
 4. Use ladders as improvised equipment

UNIT G. BUILDING EQUIPMENT

- TASK
1. Operate elevators
 2. Operate fire escape equipment
 3. Operate high rise command and control equipment
 4. Operate built-in fire protection equipment

UNIT H. RESCUE EQUIPMENT

- TASK
1. Use breathing apparatus
 2. Use life lines and related equipment
 3. Use protective clothing and equipment
 4. Use rescue equipment
 5. Use personal safety precautions

UNIT I. DETECTION EQUIPMENT

- TASK
1. Operate combustible gas indicators
 2. Operate portable heat detection equipment
 3. Operate radiological monitoring equipment
 4. Operate toxic gas indicators
 5. Operate carbon monoxide detector equipment
 6. Operate fire detection and system control panels

UNIT J. SALVAGE EQUIPMENT

- TASK
1. Operate smoke removal equipment
 2. Operate water removal equipment

UNIT K. WILDLAND EQUIPMENT

- TASK
1. Use back pumps
 2. Use fusees
 3. Use backfire drip torch
 4. Use portable pumps
 5. Use fire shelter

BLOCK III. EQUIPMENT OPERATION

- TASK
6. Use fire curtains and blankets
 7. Use compass and GPS equipment
 8. Use infrared fire finding equipment
 9. Use belt weather kit
 10. Use topographic maps
 11. Operate helitorch
 12. Assemble field hose roller
 13. Operate aerial ignition device
 14. Use flare pistol
 15. Operate terratorch
 16. Operate air tankers
 17. Operate helicopters

BLOCK IV. WATER SUPPLY

UNIT A. MATHEMATICS

- TASK
1. Perform basic arithmetic
 2. Interpret formulas
 3. Use simple proportion
 4. Extract square root
 5. Obtain powers of numbers
 6. Employ algebraic formulas

UNIT B. FIRE HYDRAULICS

- TASK
1. Identify and interpret mathematical symbols and signs
 2. Utilize principles of hydraulics
 3. Determine friction loss in hose
 4. Determine friction loss in hydrants, pipes, and water mains
 5. Determine discharge and friction loss in standpipes and sprinkler systems
 6. Determine engine and nozzle pressures by mental formulas
 7. Determine engine and nozzle pressures by empirical formulas
 8. Determine range and reaction of fire streams
 9. Determine flow pressures and discharge from hydrants and mains
 10. Identify pressure/discharge from hydrants and mains
 11. Identify pressure/discharge relationships
 12. Determine discharge and friction loss for water ejector
 13. Determine head pressure in upslope and downslope hose lays

UNIT C. FIRE PROTECTION WATER SUPPLIES

- TASK
1. Determine area, capacity, and volume of supplies
 2. Determine location and accessibility of water supplies
 3. Utilize improvised and portable water supplies
 4. Identify water distribution system features

- TASK
5. Identify and determine water system pressures
 6. Identify water main valves
 7. Identify private water system features
 8. Identify hydrant types
 9. Determine auxiliary water supplies
 10. Estimate required fire flows
 11. Determine hydrant distributions

BLOCK V. CONTROL OF EMERGENCIES

UNIT A. FIRE BEHAVIOR

- TASK
1. Identify classes of fire
 2. Identify theory of combustion
 3. Identify sources of ignition
 4. Identify theory of heat transfer
 5. Identify theory of extinguishment
 6. Identify causes of fire
 7. Identify causes of fire spread
 8. Identify stages of fire
 9. Identify characteristics of fuel
 10. Identify characteristics of oxidizers
 11. Identify characteristics of Class A fires
 12. Identify characteristics of Class B fires
 13. Identify characteristics of Class C fires
 14. Identify characteristics of Class D fires
 15. Identify fire characteristics of dusts and powders
 16. Identify products of combustion
 17. Identify refrigerant hazards
 18. Identify classes of hazardous materials
 19. Identify the effects of fire and fire control operations upon building materials
 20. Identify building construction features which contribute to fire spread
 21. Identify building construction features which minimize fire spread
 22. Identify effects of fire and fire control operations upon various commodities
 23. Identify effects of extinguishing agent application
 24. Identify characteristics of air masses
 25. Identify elements of weather which effect fire spread
 26. Identify effects of fuel orientation on fire spread

- TASK 27. Identify characteristics of topography which contribute to fire spread
- 28. Identify the components of the national fire danger rating system

UNIT B. TACTICAL OPERATIONS

- TASK 1. Utilize fire tactics and strategy
- 2. Make size up
- 3. Use prefire plans
- 4. Perform rescue techniques
- 5. Protect people
- 6. Perform evacuation
- 7. Establish evacuation plan
- 8. Use safety procedures
- 9. Protect exposures
- 10. Perform ventilation
- 11. Use confinement methods
- 12. Perform extinguishment operations
- 13. Perform overhaul operations
- 14. Perform salvage operations

UNIT C. BASIC EMERGENCY OPERATIONS COMMAND AND CONTROL

- TASK 1. Utilize apparatus and equipment
- 2. Utilize personnel
- 3. Isolate emergency scene
- 4. Establish command post
- 5. Establish staging area(s)

UNIT D. MAJOR EMERGENCY OPERATIONS COMMAND AND CONTROL

- TASK 1. Determine scope of emergency problem
- 2. Implement Incident Command System
- 3. Control major emergency operations

- TASK
4. Control urban search and rescue operations
 5. Control flooding conditions
 6. Control urban conflagration
 7. Control earthquake related emergencies
 8. Control civil disturbance related emergencies
 9. Use civil disturbance control procedures
 10. Control traffic
 11. Determine need for combat resources
 12. Obtain assistance
 13. Use mutual aid plans
 14. Use disaster plans

UNIT E. WILDLAND FIRE INCIDENTS

- TASK
1. Size up for wildland fires
 2. Determine incident location
 3. Determine size of incident
 4. Determine potential size of incident
 5. Determine rate of spread
 6. Identify topographic features
 7. Natural and manmade barriers
 8. Tactics for wildland fires
 9. Perform direct attack
 10. Perform indirect attack
 11. Perform parallel attack method
 12. Perform envelopment control action
 13. Perform pincer control action
 14. Perform tandem control action
 15. Perform hotspotting control action
 16. Perform flanking control action
 17. Perform backfiring operations
 18. Perform cold trailing operations
 19. Perform mop-up and patrol operations

- TASK 20. Perform structural defense triage
 - 21. Safety for wildland fires
 - 22. Identify the "Watch Out" conditions
 - 23. Identify the 10 basic fire fighting orders
 - 24. Strategy for wildland fires
 - 25. Control initial attack fires
 - 26. Control extended attack fires
 - 27. Control campaign fires
 - 28. Control urban/interface fires
 - 29. Management of wildland fires
 - 30. Utilize unified command
 - 31. Obtain environmental and technical specialists
 - 32. Utilize heavy fire equipment
 - 33. Identify bulldozer types, capabilities, and limitations
 - 34. Identify tactical use of heavy equipment
 - 35. Use bulldozer operations safety procedures
 - 36. Air attack operations
 - 37. Identify aircraft types, capabilities, and limitations
 - 38. Utilize fixed and rotary wing aircraft
 - 39. Identify air base procedures

UNIT F. HAZARDOUS MATERIALS INCIDENTS

- TASK 1. Utilize scene management techniques
 - 2. Identify unknown hazardous materials
 - 3. Utilize primary and secondary information sources for hazardous materials specific data
 - 4. Utilize testing and instrumentation equipment
 - 5. Utilize specialized protective clothing
 - 6. Identify signs and symptoms of exposure
 - 7. Utilize decontamination techniques
 - 8. Utilize exposure information reporting system
 - 9. Control ignition sources

BLOCK V. CONTROL OF EMERGENCIES

TASK 10. Prevent explosive atmospheres

11. Protect environment
12. Control transportation emergencies
13. Control flammable liquid fires and spills
14. Control combustible liquid fires and spills
15. Control corrosive material emergencies
16. Control radioactive material emergencies
17. Control poison emergencies
18. Control flammable solid emergencies
19. Control combustible metal emergencies
20. Control flammable gas fires and spills
21. Control cryogenic emergencies
22. Control liquefied and pressurized gas emergencies
23. Control explosive material emergencies
24. Control toxic material emergencies
25. Control oxidizing material emergencies
26. Control unstable and reactive materials emergencies
27. Control organic peroxide emergencies
28. Control etiologic agent emergencies

UNIT G. AIRPORT INCIDENTS

TASK 1. Control airport emergencies

2. Airport familiarization
3. Identify features of airport runways and taxiways
4. Identify airport vehicle movements and routes
5. Identify airport lighting color codes
6. Identify functions of control tower
7. Identify hazardous materials at airports and on aircraft
8. Identify features of airport buildings
9. Identify features of airport systems
10. Identify pertinent airport reference materials
11. Aircraft familiarization

- TASK 12. Identify features of aircraft construction
- 13. Control aircraft devices and systems
- 14. Identify aircraft passenger and crew positions
- 15. Airport fire equipment and systems(UNIT G HEADING)
- 16. Employ airport fire apparatus and equipment
- 17. Employ airport fire alarm boxes and devices
- 18. Employ airport fixed fire extinguishing systems
- 19. Airport fire department operations(UNIT H HEADING)
- 20. Forcibly enter aircraft
- 21. Ventilate aircraft
- 22. Evacuate, remove, and care for persons at airport
- 23. Employ airport communication systems
- 24. Secure aircraft incident areas
- 25. Search for, extricate, and remove aircraft incident victims
- 26. Airport fire fighting operations
- 27. Identify hazards of aircraft and airports
- 28. Identify hand signals
- 29. Identify airport fire fighting operations and sequence
- 30. Employ and resupply airport special agent vehicles
- 31. Position airport emergency vehicles
- 32. Identify airport response procedures
- 33. Identify airport prefire planning

UNIT H. MEDICAL EMERGENCY INCIDENT

- TASK 1. Control medical emergencies
- 2. Control routine medical emergencies
- 3. Extricate victims
- 4. Control multi-casualty medical emergencies
- 5. Control mass casualty medical emergencies
- 6. Control catastrophic medical emergencies

BLOCK VI. SALVAGE AND OVERHAUL

UNIT A. SALVAGE COVER OPERATIONS

- TASK
1. Identify fundamentals of covers
 2. Fold and carry covers
 3. Throw, spread, and hang covers
 4. Improvise with covers

UNIT B. PROTECT PROPERTY

- TASK
1. Protect building contents
 2. Use sweeping and drying tools
 3. Operate water removing devices
 4. Route water runoff

UNIT C. OVERHAUL

- TASK
1. Remove hazards and safeguard property
 2. Remove rubble, debris, and charred materials
 3. Control public service utilities
 4. Search for hidden fires
 5. Open ceilings, walls, and floors
 6. Perform fire and security surveillance
 7. Cover or close openings
 8. Restore premises

BLOCK VII. APPARATUS, VEHICLE, AND PUMP OPERATIONS

UNIT A. MAINTENANCE

- TASK
1. Maintain specialized operators licenses
 2. Make periodic apparatus inspections
 3. Interpret principles of vehicle and vehicle components
 4. Maintain staff vehicles
 5. Maintain pumps and pump-related components
 6. Maintain aerial ladders, platforms, and components
 7. Perform preventative maintenance, inspections, and minor repairs

UNIT B. DRIVING

- TASK
1. Obey traffic laws and department driving rules
 2. Use defensive driving techniques
 3. Drive apparatus
 4. Operate tiller
 5. Operate radio equipment
 6. Use warning devices
 7. Spot pumping apparatus
 8. Spot aerial ladders and platforms

UNIT C. PUMPING APPARATUS OPERATION

- TASK
1. Interpret operating principles of pumps and pump components
 2. Interpret gauge readings
 3. Operate booster pumps
 4. Operate pumps at draft
 5. Operate pumps at hydrant
 6. Operate pumps in relay and tandem
 7. Operate pumps in mobile pumping operations
 8. Troubleshoot during pump operations
 9. Utilize pumping apparatus systems

BLOCK VII. APPARATUS, VEHICLE, AND PUMP OPERATIONS

TASK 10. Identify causes of pump damage

11. Augment sprinkler system and standpipe water supplies
12. Determine effective range of master streams
13. Determine nozzle reaction of master streams

UNIT D. AERIAL APPARATUS OPERATION

TASK 1. Interpret operating principles of aerial apparatus

2. Stabilize aerial apparatus
3. Operate aerial apparatus
4. Operate aerial apparatus during equipment or power failure
5. Troubleshoot during aerial apparatus operations
6. Utilize aerial apparatus systems

UNIT E. OFF-ROAD APPARATUS OPERATIONS

TASK 1. Operate apparatus on mountainous terrain

2. Operate all wheel drive vehicle
3. Operate power take-off and hydraulic winches
4. Determine slope percentages for safe vehicle operations
5. Operate off road apparatus during mobile pumping

BLOCK VIII. EMERGENCY CARE

UNIT A. PRIMARY AND SECONDARY SURVEYS

- TASK
1. Analyze topographic anatomy
 2. Make primary survey
 3. Make secondary survey
 4. Observe surroundings
 5. Determine case history

UNIT B. CARDIOPULMONARY RESUSCITATION

- TASK
1. Maintain open airway
 2. Perform resuscitation
 3. Perform cardiac compression
 4. Treat for heart malfunction
 5. Treat breathing emergencies

UNIT C. EMERGENCY TREATMENT

- TASK
1. Control bleeding and treat wounds
 2. Treat cerebrovascular injuries
 3. Treat poison emergencies
 4. Treat substance abuse
 5. Treat burns
 6. Treat diabetes
 7. Treat heat and cold emergencies
 8. Treat fractures and dislocations
 9. Treat strains and sprains
 10. Treat stings and bites
 11. Treat shock
 12. Treat drowning
 13. Treat seizures
 14. Treat eye injuries
 15. Treat head injuries

- TASK 16. Treat abdominal injuries
- 17. Assist emergency childbirth
- 18. Treat sick persons
- 19. Treat multiple casualties
- 20. Employ triage

UNIT D. TRANSPORTATION

- TASK 1. Perform manual lifts and carries
- 2. Provide transportation of sick and injured
- 3. Improvise transportation

BLOCK IX. FIRE AND ARSON INVESTIGATION

UNIT A. FIRE SCENE EXAMINATION

- TASK
1. Examine fire scene
 2. Determine origin and cause of fires
 3. Take investigative notes
 4. Sketch and diagram scenes
 5. Estimate fire losses
 6. Report fire loss data
 7. Identify, collect, and preserve evidence
 8. Preserve fire scene
 9. Use photography and video tape

UNIT B. INVESTIGATION

- TASK
1. Identify investigator's responsibilities and empowerment
 2. Investigate structure fires
 3. Investigate vehicle fires
 4. Investigate wildland fires
 5. Investigate utility fires
 6. Investigate fire deaths
 7. Investigate incendiary fires
 8. Investigate accidental fires
 9. Investigate explosives emergencies
 10. Identify human motivation and behavior patterns
 11. Identify arson methods and motives
 12. Investigate juvenile firesetters
 13. Investigate pathological firesetters
 14. Investigate fraud fires
 15. Use defensive weapons
 16. Use laboratory techniques and technology
 17. Interview witnesses and suspects
 18. Employ surveillance techniques

BLOCK IX. FIRE AND ARSON INVESTIGATION

- TASK 19. Identify conspiracies
- 20. Use law enforcement and related agencies
- 21. Use insurance companies
- 22. Obtain technical assistance
- 23. Obtain statements
- 24. Obtain and serve warrants
- 25. Make arrests
- 26. Identify search and seizure laws
- 27. Employ search procedures
- 28. Identify negligence
- 29. Investigate information about anticipated fires
- 30. Conduct internal affairs investigations

UNIT C. CASE PREPARATION

- TASK 1. Prepare cases
- 2. Identify judicial systems
- 3. Present evidence
- 4. Interpret arson and incendiary laws
- 5. Understand legal terminology
- 6. Apply investigative and court procedures
- 7. Utilize proper courtroom demeanor
- 8. Coordinate with other agencies

BLOCK X. PUBLIC RELATIONS AND EDUCATION

UNIT A. PUBLIC EDUCATION

- TASK
1. Develop educational material
 2. Employ community demographic and governmental structures
 3. Obtain fire education materials
 4. Develop fire safety programs
 5. Develop emergency medical aid programs
 6. Develop disaster preparedness programs
 7. Develop fire prevention programs
 8. Publicize emergency evacuation drills and plans
 9. Employ public education audio/visual resources
 10. Promote public safety legislation
 11. Prepare fire department displays
 12. Prepare and administer merit badge tests
 13. Prepare lectures
 14. Make public appearances and speeches
 15. Utilize resource systems
 16. Prepare media releases
 17. Provide interviews to media
 18. Maintain fire statistics

UNIT B. PUBLIC RELATIONS

- TASK
1. Identify fire fighter's public obligation
 2. Identify necessity for good public relations
 3. Participate in special public relations details
 4. Adjust complaints

UNIT C. FIRE PROTECTION

- TASK
1. Conduct fire drills for public
 2. Demonstrate fire equipment
 3. Organize and train private fire brigades

BLOCK X. PUBLIC RELATIONS AND EDUCATION

- TASK 4. Conduct fire prevention week and similar activities
5. Demonstrate and explain fire and life safety procedures

BLOCK XI. FIRE PREVENTION

UNIT A. FIRE PREVENTION CODES

- TASK
1. Establish legal prevention responsibilities and empowerment
 2. Enforce codes, laws, ordinances, and safety regulations
 3. Utilize building codes
 4. Utilize fire codes
 5. Determine code enforcement procedures
 6. Employ code enforcement equipment
 7. Modify code requirements
 8. Establish appeals procedures
 9. Determine judicial review process

UNIT B. HAZARD CONTROL

- TASK
1. Issue permits and licenses
 2. Check plans and specifications
 3. Interpret maps and map symbols
 4. Prepare diagrams and sketches
 5. Prepare prefire plans
 6. Attend fire prevention details
 7. Establish relations with other prevention agencies
 8. Apply principles of chemistry and physics
 9. Identify common hazards
 10. Identify special hazards
 11. Identify structural hazards
 12. Identify fire control characteristics of building construction
 13. Promote fire safety legislation
 14. Evaluate inspection information
 15. Initiate corrective measures
 16. Utilize codes for abatement procedures
 17. Analyze use of helitorch

UNIT C. LIFE SAFETY

- TASK
1. Identify fire and panic hazards
 2. Determine life safety code requirements
 3. Determine occupant loads
 4. Determine fire loading
 5. Determine building height and area limitations
 6. Prepare and evaluate emergency evacuation plans
 7. Prepare and evaluate fire exit drills
 8. Determine adequacy of egress
 9. Determine adequacy of exits
 10. Determine adequacy of stairwells and smoke towers
 11. Review land use policies

UNIT D. OCCUPANCY INSPECTION

- TASK
1. Make fire protection surveys
 2. Make company fire prevention inspections
 3. Inspect and evaluate refrigeration systems
 4. Inspect and evaluate heating and cooling systems
 5. Inspect and evaluate electrical appliances and systems
 6. Inspect and evaluate the storage, handling, transportation, and transfer of flammable and combustible liquids
 7. Inspect and evaluate the storage, handling, transportation, and transfer of pressurized and liquified gases
 8. Inspect and evaluate the storage, handling, transportation, and transfer of hazardous materials
 9. Inspect and evaluate occupancies containing dusts and powders
 10. Employ building construction classifications
 11. Inspect and evaluate special hazard occupancies
 12. Inspect and evaluate heating and cooking equipment
 13. Inspect and evaluate interior finishes
 14. Inspect building construction assemblies and devices
 15. Inspect fire doors

- TASK 16. Inspect building construction components and features
 - 17. Inspect roof coverings
 - 18. Inspect building equipment
 - 19. Inspect elevators and components
 - 20. Inspect life safety systems
 - 21. Inspect decorations, decorative materials, and furnishings
 - 22. Inspect vents
 - 23. Inspect for fireworks display requirements
 - 24. Inspect for PRC 4290 and 4291 requirements

UNIT E. FIRE PROTECTION SYSTEMS

- TASK 1. Inspect and evaluate fixed fire extinguishing systems
 - 2. Inspect and evaluate sprinkler systems
 - 3. Inspect and evaluate standpipe and hose systems
 - 4. Inspect and evaluate private water systems
 - 5. Inspect and evaluate local fire alarm systems
 - 6. Inspect and evaluate heat, smoke, and flame detection systems
 - 7. Inspect and evaluate portable fire extinguisher use and locations
 - 8. Determine appropriate fire suppression systems
 - 9. Inspect hydrants and water storage facilities

UNIT F. EXTERIOR INSPECTIONS

- TASK 1. Inspect construction and project sites
 - 2. Issue burning permits
 - 3. Issue campground and campfire permits
 - 4. Inspect for structural brush clearances
 - 5. Inspect for exterior protection devices

BLOCK XII. FIRE COMMUNICATIONS SYSTEMS

UNIT A. COMMUNICATION SYSTEM OPERATION

- TASK
1. Identify duties of fire alarm personnel
 2. Operate alerting equipment
 3. Operate telephone systems
 4. Operate radios
 5. Operate electronic and computerized dispatch equipment
 6. Employ running card systems
 7. Interpret alarm information and appropriate dispatch
 8. Transmit verbally received alarms
 9. Transmit electronically received alarms
 10. Dispatch apparatus and equipment
 11. Utilize fire alarm communication systems
 12. Utilize mutual radio systems
 13. Identify alarm system equipment
 14. Identify fire location indicators

UNIT B. CONSTRUCTION AND MAINTENANCE

- TASK
1. Use fire alarm plans and specifications
 2. Interpret pamphlets and general orders
 3. Identify, assemble and record engineering data
 4. Apply principles of electric circuitry
 5. Apply principles of current protection devices
 6. Identify principles of electricity
 7. Employ measuring and recording devices
 8. Interpret theory of fire alarm systems
 9. Interpret fundamentals of communication devices
 10. Restore and reset fire alarm equipment
 11. Utilize principles of troubleshooting

BLOCK XIII. BUSINESS FUNCTIONS

UNIT A. RECORDS AND REPORTS

- TASK
1. Prepare fire prevention reports
 2. Maintain fire prevention records
 3. Prepare fire alarm system reports
 4. Maintain fire alarm system records
 5. Prepare hydrant condition reports
 6. Maintain hydrant condition records
 7. Prepare fire incident reports
 8. Maintain fire incident records
 9. Prepare fire department activity reports
 10. Maintain fire department activity records
 11. Prepare emergency response reports
 12. Maintain emergency response records
 13. Prepare investigation reports
 14. Maintain investigation records
 15. Maintain records on incendiaryists
 16. Prepare maintenance and repair reports
 17. Maintain maintenance and repair records
 18. Prepare water system reports
 19. Maintain water system records
 20. Prepare training reports
 21. Maintain training records
 22. Prepare personnel reports
 23. Maintain personnel records
 24. Prepare apparatus and equipment reports
 25. Maintain apparatus and equipment records
 26. Prepare reports on testing
 27. Maintain records on testing
 28. Prepare reports on building maintenance
 29. Maintain records on building maintenance

BLOCK XIII. BUSINESS FUNCTIONS

- TASK 30. Prepare accident reports
 - 31. Maintain accident records
 - 32. Prepare financial and expenditure reports
 - 33. Maintain financial and expenditure records

UNIT B. BUSINESS EQUIPMENT

- TASK 1. Operate office machines
 - 2. Operate electronic data processing equipment

UNIT C. BUSINESS PROCEDURES

- TASK 1. Prepare specifications, requisitions, and budgets
 - 2. Maintain filing systems
 - 3. Prepare payrolls
 - 4. Prepare correspondence
 - 5. Execute business papers
 - 6. Perform clerical functions

BLOCK XIV. FIRE MECHANICS

UNIT A. MECHANICAL PRINCIPLES

- TASK
1. Interpret technical manuals
 2. Identify theory and fundamentals of motor driven apparatus
 3. Identify mechanical principles of engines
 4. Interpret principles of gauges and meters
 5. Interpret principles of fuel systems
 6. Interpret principles of ignition systems
 7. Interpret principles of cooling systems
 8. Interpret principles of power trains
 9. Interpret principles of braking systems
 10. Interpret principles of lubrication systems
 11. Utilize principles of troubleshooting

UNIT B. MECHANICAL SKILLS

- TASK
1. Employ lathes
 2. Employ welding and cutting equipment
 3. Employ metal fabrication tools and equipment
 4. Employ pipe fitting tools and equipment
 5. Use shop-type power and hand tools
 6. Maintain and repair gauges and meters
 7. Maintain and repair fuel systems
 8. Maintain and repair ignition systems
 9. Maintain and repair cooling systems
 10. Maintain and repair power trains
 11. Maintain and repair braking systems
 12. Maintain and repair lubrication systems
 13. Maintain and repair vehicles and components
 14. Maintain and repair aerial apparatus, platforms, and components

UNIT C. MAINTAIN AND REPAIR PUMPING APPARATUS AND COMPONENTS

- TASK
1. Identify principles of pumps
 2. Maintain packing, stuffing boxes, and finger rings
 3. Maintain and repair wear rings
 4. Maintain and repair bearings and bushings
 5. Correct water and air leaks
 6. Perform lubrication
 7. Maintain and repair shafts
 8. Maintain and repair strainers
 9. Maintain and repair impellers
 10. Maintain and repair changeover valves and clappers
 11. Prevent cavitation
 12. Maintain and repair rotary gear and priming devices
 13. Maintain and repair vacuum and exhaust priming systems
 14. Maintain and repair plumbing for priming devices
 15. Maintain and repair relief valves and pressure governors
 16. Maintain and repair pressure relief dump valves
 17. Maintain and repair reducing valves
 18. Maintain and repair valves
 19. Maintain and repair slide valves and proportion systems
 20. Prevent rust and corrosion
 21. Select plumbing, fittings, and joints
 22. Maintain and repair tanks
 23. Maintain flow meters

BLOCK XV. FIRE SERVICE INSTRUCTION

UNIT A. PREPARATION

- TASK
1. Identify instructor's role and responsibility
 2. Develop communication skills
 3. Link instruction with equal opportunity requirements
 4. Link instruction with affirmative action goals
 5. Utilize teaching/learning processes
 6. Identify training needs
 7. Employ occupational analysis
 8. Identify course objectives
 9. Identify course content
 10. Establish levels of instruction
 11. Construct and use student behavioral objectives
 12. Construct and use course outlines
 13. Construct and use lesson plans
 14. Prepare and use supplementary instruction sheets

UNIT B. INSTRUCTION

- TASK
1. Plan, organize and manage instructional activities
 2. Utilize laws of learning
 3. Identify human factors affecting learning
 4. Organize learning environments
 5. Develop instructional materials
 6. Utilize instructional methods
 7. Select and train instructors
 8. Develop training schedules
 9. Plan and implement training programs
 10. Plan and employ group discussion techniques
 11. Utilize the four step method of instruction
 12. Teach manipulative skills
 13. Teach technical subjects

- TASK 14. Employ teaching aids and audio/visuals
- 15. Reduce failure rates
- 16. Write projects
- 17. Prepare and conduct assessment labs

UNIT C. EVALUATION

- TASK 1. Interpret fundamentals of evaluation
- 2. Plan tests
- 3. Construct and use oral tests
- 4. Construct and use written tests
- 5. Construct and use manipulative performance tests
- 6. Interpret elementary statistics
- 7. Analyze tests
- 8. Conduct critiques

BLOCK XVI. FIRE SERVICE MANAGEMENT

UNIT A. MANAGEMENT PRINCIPLES

- TASK
1. Utilize management principles
 2. Establish and prioritize objectives
 3. Recognize leadership styles
 4. Recognize behavioral characteristics of groups and individuals
 5. Recognize differing job attitudes
 6. Develop and employ communication skills
 7. Utilize decision-making processes

UNIT B. MANAGEMENT PRACTICES

- TASK
1. Promote group cooperation
 2. Handle disputes and grievances
 3. Employ motivational techniques
 4. Make corrective personnel actions
 5. Conduct personnel interviews
 6. Employ supervision practices
 7. Issue orders and instructions
 8. Foster community relations
 9. Understand chain of command
 10. Understand span of control
 11. Identify line and staff organization
 12. Enforce safety programs and regulations
 13. Write technical reports
 14. Interpret policies
 15. Maintain discipline
 16. Counsel personnel
 17. Enforce rules and regulations
 18. Plan, organize and conduct departmental programs
 19. Plan, organize and direct work
 20. Delegate responsibility and authority

TASK 21. Prepare requisitions and specifications

UNIT C. FIREGROUND MANAGEMENT

- TASK
1. Employ fireground organizational principles
 2. Identify emergency problems
 3. Utilize personnel and equipment resources
 4. Accomplish fireground tactical and strategical objectives

UNIT D. PERSONNEL MANAGEMENT

- TASK
1. Examine and interview new personnel
 2. Select and assign personnel
 3. Evaluate personnel
 4. Evaluate organizational efficiency
 5. Analyze work methods
 6. Plan and coordinate activities
 7. Analyze proficiency testing
 8. Analyze departmental rules and regulations
 9. Utilize incentive systems
 10. Interpret and utilize equal opportunity requirements
 11. Administer labor agreements
 12. Administer corrective actions

BLOCK XVII. FIRE SERVICE ADMINISTRATION

UNIT A. PROGRAM ADMINISTRATION

- TASK
1. Administer personnel programs
 2. Administer labor relations program
 3. Administer affirmative action program
 4. Administer safety program
 5. Administer departmental programs and policies

UNIT B. FIRE DEFENSE ADMINISTRATION

- TASK
1. Interpret and utilize ISO grading schedule
 2. Provide, coordinate and utilize fire protection systems
 3. Provide facilities and equipment
 4. Administer fire department units and sections

UNIT C. PLANNING

- TASK
1. Approve and administer master plan
 2. Approve and administer disaster plans
 3. Analyze trends in urbanization
 4. Analyze trends in building construction
 5. Analyze trends in fire prevention
 6. Analyze trends in fire protection
 7. Analyze population and demographics
 8. Plan, initiate, and carry out long range plans and projections
 9. Establish cost/benefit ratios
 10. Develop, justify, and control budgets
 11. Analyze alternative plans and timetables
 12. Administer research and development
 13. Promote fire service legislation

UNIT D. COORDINATING

- TASK
1. Coordinate and utilize codes, laws, and ordinances
 2. Represent department
 3. Coordinate relations with other agencies
 4. Coordinate relations with utilities
 5. Coordinate relations between departmental functional units
 6. Coordinate political aspects

UNIT E. FIRE SERVICE COMPUTER SYSTEMS

- TASK
1. Utilize management information systems
 2. Utilize electronic data processing equipment and systems
 3. Assess existing computer software
 4. Assess existing computer hardware
 5. Analyze fire service computer applications
 6. Analyze compatibility and adaptability of computer systems and existing fire department systems
 7. Analyze interdepartmental relationship of fire department computer systems