Instructional Development Series
Techniques Of Evaluation
Course Plan

Course Details

Certification:	FSTEP: Instructional Development Series
CTS Guide:	None
Description:	This course provides the skills and knowledge needed for the intermediate level professional instructor to perform his or her duties safely, effectively, and competently. The curriculum is based on the 2012 edition of NFPA 1041 Standard for Fire Service Instructor Professional Qualifications and the 2012 edition of NFPA 1403 Standard on Live Fire Training Evolutions. At the end of this course, candidates for Instructor II certification will be able to develop lesson plans and evaluation instruments, teach and deliver instruction, and evaluate and coach other instructors. The Instructor II will also be able to analyze resources and formulate a program budget.
Designed For:	Personnel preparing for a college level fire instructor, SFT Certified Training Instructor position, or career development for teaching SFT Instructional Curriculum.
Prerequisites:	Instructor I recommended
	Instructor II recommended
Standard:	Complete all group activities and formative tests. Pass all individual activities without omitting critical criteria as identified on the activity sheet.
	Complete all summative tests with a minimum score of 80%.
Hours:	Lecture: [18:30]
	Activities: [10:30] [Instructor determined activities not included]
	Testing: [3:00]
Hours (Total):	[32:00]

Maximum Class Size: 25

Instructor Level: SFT Credentialed Instructor. The primary instructor should meet SFT Instructor III qualifications or higher. Alternatively, the primary instructor can meet Instructor II qualifications but must also have completed an intensive FSTEP course in testing as well as an FSTEP course that surveys the areas of testing, audiovisual presentations, e-learning delivery and learning management systems, and group dynamics. Assistant instructors (skills evaluators) should meet Instructor I qualifications or higher.

Instructor/Student Ratio: 1:25

Restrictions: None. Instructor must submit letter for approval of conditions outside the parameters of normal classroom instruction, e.g. class size exceeds 25, compressed course delivery, distance learning format.

SFT Designation: FSTEP

Required Resources

Instructor Resources

To teach this course, instructors need one of the following:
- *Fire and Emergency Services Instructor, 8th edition,* IFSTA 2012, ISBN 978-0-87939-441-7
- *Fire Service Instructor: Principles and Practice, 2nd edition*, Jones & Bartlett Learning, 2014, ISBN: 9781449670832
- Important points not already covered in the above texts are called out in bullet points below the enabling learning objective (ELO) in each topic.
- Testing and Assessment in Occupational and Technical Education by Paul A. Bott, Allyn and Bacon, ©1996, ISBN: 0205168787

Note: This book is designed to provide the occupational teacher with knowledge of the basic principles and methods of measurement, test construction, and evaluation that can be applied in the classroom and used to assess student progress. Because no one occupation receives most of the attention, the book can be readily used in general occupational teacher preparation courses as well as in those specific to one subject. Specific methods that can be used to assess student progress are described and explained, and emphasis is placed on methods of testing for mastery of content and the specific kinds of items used in those tests.

Copies of local agency policies and procedures for the following, and sample forms, such as:
- Needs analysis
- Purchasing
- Scheduling policy
- Budget policy
- Training records
- Record auditing procedures
- Instructor testing and evaluation
- Test blueprint or planning sheet
- Classroom evaluation
- Online learning safety standards, practices, and risk management

Online Instructor Resources

- Textbook downloadable resources on publisher websites

The following instructor resources are available online at http://osfm.fire.ca.gov/training/traininginstructor.php:
- Cognitive Lesson Plan Format
- Psychomotor Lesson Plan Format
- Test Analysis tool and questionnaire

Student Resources

To participate in this course, students need textbooks, as indicated by the instructor:
- *Fire and Emergency Services Instructor, 8th edition,* IFSTA 2012, ISBN 978-0-87939-441-7
- *Fire Service Instructor: Principles and Practice, 2nd edition*, Jones & Bartlett Learning, 2014, ISBN: 9781449670832

Students may be asked to supply:
- Their own laptop or tablet with presentation or other viewing hardware and/or software
- Other devices as needed for distance learning

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:
- Standard learning environment or facility, which may include:
- Writing board or paper easel chart
- Markers, erasers
- Amplification devices
- Projector and screen
- Laptop or tablet with presentation or other viewing software
- Access to a computer lab for some sessions
- Access to an outdoor facility for some sessions
- Equipment as needed for student-led demonstrations or psychomotor lessons such as appliances, extinguishers, hose, hand tools, ladders, power tools, protective equipment/clothing, rope, salvage equipment, simulation materials.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
   - Restroom locations
   - Food locations
   - Smoking locations
   - Emergency procedures
2. Identify classroom requirements
   - Start and end times
   - Breaks
   - Electronic device policies
   - Special needs and accommodations
   - Other requirements as applicable
3. Review course syllabus
   - Course objectives
   - Calendar of events
   - Course requirements
   - Student evaluation process
   - Assignments
   - Activities
   - Required student resources
   - Class participation requirements

Discussion Questions

1. What is a formative test? What is a summative test?

Activities

2. To be determined by the instructor.
3. Activity: Have students' pair up with someone they do not know. For five minutes, interview each other (2 ½ minutes each). Be prepared to introduce the other student to the class. Allow 30 minutes.

Topic 1-2: Instructor Certification Process

Terminal Learning Objective

At the end of this topic, a student will be able to identify different levels in the Instructor certification track, the courses and requirements for Instructor I certification, and be able to describe the certification task book and testing process.

Enabling Learning Objectives
1. Identify the different levels of certification in the Instructor certification track
   * Instructor I
   * Instructor II
   * Instructor III
2. Identify the courses required for Instructor I
   * Instructional Methodology
2. Identify any other requirements for Instructor I
3. Describe the certification task book process
   * Complete all prerequisites and course work
   * Submit application and fees to request certification task book
   * Complete all job performance requirements included in the task book
   * Must have identified evaluator verify individual task completion via signature
   * Must have Fire Chief or authorized representative verify task book completion via signature
   * Must be employed by a California Fire Agency in the position prior to submitting completed task book to State Fire Training
4. Describe the certification testing process
   * Complete coursework
   * Schedule online certification test
   * Schedule skills evaluation test

Discussion Questions
1. How many levels are there in the Instructor certification track? What are they?
2. By completing three identified of the FSTEP classes, what does that qualify you to do?

Activities
1. To be determined by the instructor.

Topic 1-3: Definition of Duties

Terminal Learning Objective

At the end of this topic, a student, given the definitions of duty, will be able to define the role of the Instructor(s) with regard to program management, instructional development, instructional delivery, and evaluation and testing.

Enabling Learning Objectives
1. Describe program management
   * The management of basic resources and the records and reports essential to the instructional process
2. Describe instructional development
   * The review and adaptation of prepared instructional materials
   * The Instructor I should not alter the content or the lesson objectives in this process
3. Describe instructional delivery
   * The delivery of instructional sessions utilizing prepared course materials
4. Describe evaluation and testing

- The administration and grading of student evaluation instruments
- Primarily deals with student evaluation; however, the Instructor I could be required to conduct program evaluations according to policies and procedures.
5. Describe Instructional classes included in the Fire Service Training and Education Program (FSTEP) that Instructors must complete to qualify for teaching Instructor Curriculum
   - The administration and grading of student evaluation instruments

Discussion Questions
1. What is the basic definition of the Instructor levels in State Fire Training?
2. What is the basis for the three core classes identified in FSTEP to qualify Instructors to teach the Level I through Level III curriculum?
3. What are the restrictions of an Instructors regarding testing?

Activities
1. To be determined by the instructor.

Unit 2: Federal and State Vocational Laws

Topic 2-1: Performance Based Accountability in Federal Law

Terminal Learning Objective
At the end of this topic, a student, given major vocational education laws and legislative milestones, will be able to define the impact on instructional development materials, so that governing local standards, state laws, and federal laws are considered with performance based accountability.

Enabling Learning Objectives
1. Describe major vocational education laws since the Smith-Hughes Act of 1917
   - Laws have included accountability requirements
   - The tools for achieving accountability have become more outcome-oriented over time
2. Describe 1990 legislation marks
   - Significant turning point in federal accountability
   - Explicitly tying the process of state and local review to standards based on outcomes
3. Identify legislative milestones influencing accountability in Federal Vocational Education Programs
   - 1917: Smith-Hughes Act
   - 1963: Vocational Education Act
   - 1968: Vocational Education Amendments
   - 1976: Vocational Education Amendments
   - 1984: Carl D. Perkins Vocational Education Act
   - 1988: Hawkins-Stafford Elementary and Secondary School Improvement Amendments
   - 1988: Family Support Act

- 1988: Hunger Prevention Act
- 1990: Carl D. Perkins Vocational and Applied Technology Education Amendments

Discussion Questions

1. How did Smith-Hughes Act 1917 change with respect to vocational training?
2. How did federal vocational education programs influence our vocational training system?

Activities

1. To be determined by the instructor
2. Activity: Discuss the implications of Evolution of Performance Based Accountability

Instructor Notes

1. Discuss student handout: Evolution of Performance Based Accountability

Topic 2-2: State and Federal Law Implications to Training

Terminal Learning Objective

At the end of this topic, a student, given state and federal laws, will be able to define the impact on instructional development materials, so that governing local standards, state laws, and federal laws are considered with evaluation assessment instruments.

Enabling Learning Objectives

1. Describe Legal Implication to instructors
   - Laws, codes, ordinances, and decrees that are legally binding requirements are created at most levels of government statutes that ensure safety and welfare of society
   - In the US, the Code of Federal Regulations (CFR) applies to many areas of the fire and emergency services while the Americans with Disabilities Act (ADA) mandates that public facilities be accessible to people with physical impairments
   - Liability is a term used to describe a legal responsibility
   - Negligence is a breach of duty where there is a responsibility to perform
     - Providing incorrect information or instruction
     - Failing to instruct a topic they are responsible to teach
     - Teaching a topic they are unqualified to instruct
     - Failing to provide for safety
   - Foreseeability
     - The act of foreseeing consequences and taking reasonable precautions to avoid: trip hazards, damaged or unsafe equipment, environmental hazards
     - Confirming students that are not fit or physically capable of performing the skill
     - Lack of appropriate supervision or safe operating conditions
   - Vicarious liability
     - Blame for actions of one person can be transferred to another person or organization
   - Liability reduction

- o Courts have come to expect that reasonable and prudent instructors should perform the following steps as a normal part of their instructional preparation, especially when delivering psychomotor skills training
  - o Develop a safety plan or formally develop a strategy to prevent injuries
  - o Follow the safety plan
  - o Provide for health and safety of students and participants
  - o Give proper instructions
  - o Have a written safety message
- Precautions that should be followed to minimize liability
  - o Check equipment regularly for safe operating conditions
  - o Ensure that students are physically fit and prepared for the tasks to be performed
  - o Instruct and test students in the safe operation of the equipment
  - o Do not leave students unattended while they are practicing potential dangerous skills
  - o Do not exceed the individual's skill level when training students or working with other instructors
  - o Be aware of standard expectations
  - o Teach to established standards
  - o Teach only topics you are qualified to teach
  - o Provide a safe learning environment
  - o Post the safety message
  - o Instructors are expected to predict and anticipate the potential for injuries that may arise from psychomotor skills training

2. Describe psychomotor training and students' rights (State and Federal)
   - Each student has substantive rights established by law
     - o Family Educational Rights and Privacy Act (1974) provides privacy of records and test scores
     - o Americans with Disabilities Act (1990) provides equal access to the learning environment and materials being taught
     - o Title VII of the Civil Rights Acts (1964) confirms fair and equal treatment in a non-hostile learning environment free of discrimination and harassment
     - o Additional substantive student rights related to psychomotor skills training
     - o Reasonable regulations are necessary to protect students during training activities and are justified even though they may be perceived as infringing on students rights
       - Requiring full turnout gear on the drill ground for student safety
       - Disagree with the instructor or institution
       - Safe learning environments

3. Describe Cal/OSHA and General Safety Orders
   - Cal/OSHA is the state agency that regulates and enforces California workplace safety and health standards
   - Citations

- o Issued for any violations of the standards
- o A written notice of a safety or health violation usually based upon an inspection of a workplace or industrial accident
- o Typically must be issued within six months of the alleged violation and must describe the violation with particularity
- o Must provide notice of any proposed penalty and provide a reasonable time for abatement
- Five violation categories
  - o <u>Regulatory violation</u> occurs when an employer fails to comply with administrative safety and health requirements, such as record keeping, reporting, posting, or permit requirements
  - o <u>General violation</u> occurs when an injury or illness results from a safety or health violation that is determined not to be likely to cause death or serious harm
  - o <u>Serious violation</u> occurs where there is a substantial probability that a safety or health violation could result in death or serious injury and/or occurs whenever an employee suffers any loss of a body part, any degree of permanent disfigurement, or any injury requiring hospitalization (other than for observation) for more than 24 hours
  - o <u>Willful violation</u> occurs where it is determined that the employer and/or employee committed an intentional and knowing safety or health violation, yet made no reasonable effort to eliminate the resulting hazard
  - o <u>Repeat violation</u> occurs where an employer repeats the same safety or health violation within three years of a previous violation
4. Describe Instructor Ethics
   - Ethics are philosophical principles that are used to determine correct and proper behavior by members of a society
   - Remind students of: Instructor Code of Ethics / Conduct

Discussion Questions
1. How did state and federal laws create major legal implications for instructors?
2. What are some basic elements that an instructor should follow to minimize liability?
3. What are some federal or state laws that have implications to instructors with respect to training?
4. What is the basis of Cal/OSHA and general safety orders regarding training?
5. What are the five levels potential violations that instructor has to be concerned?

Activities
1. Review the Instructor Code of Ethics / Conduct

Instructor Notes
1. Additional information: IFSTA: 173, 177, 350, 435 JB: 32

Unit 3: Principles of Evaluation

Topic 3-1: Review Purposes and Principles of Testing

Terminal Learning Objective

At the end of this topic, a student, given purposes and principles of tests, will be able to develop testing instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives

1. Describe purposes of testing (Why)
   - Evaluation is the last step in the four step method of instruction
   - Evaluation is accomplished by way of observation and testing
   - To determine how well students have learned
   - Determined on how well students have retained information
   - Should result in feedback for the students
   - Evaluates teaching effectiveness
2. Determine "what" to evaluate
   - Attitude factors
     - o Receptive
     - o Passive
     - o Resistive
     - o The instructor does not have control over all the factors that develop attitudes
   - Learning abilities
     - o Slow learner
     - o Course content
     - o Teaching method
3. Identify principles of testing (How)
   - Formal test usually develop my professional test makers
   - Informal test usually constructed by instructors to measure the results of their teaching
4. Describe uses for the evaluation process
   - Emphasize important points
   - Identify participant weakness
   - Identify weaknesses in instruction
   - Hold participants accountable
   - Provide a basis for reporting success
5. Select appropriate testing instruments to address:
   - The domains of learning
     - o Cognitive
     - o Psychomotor
   - Levels of learning ranging from basic to advance
   - The level of difficulty presented in a course
     - o Beginner

- o Intermediate
- o Advanced
6. Describe test usability
   - Important factor to consider when developing a test or when selecting a test developed by another organization
   - A usable test has the following characteristics:
     - o Easy for the instructors to give
     - o Easy for the students to take
     - o Cost effective
     - o Easy to administer
     - o Appropriate in length
     - o Contains multiple testing instruments
     - o Easy to score
     - o Convenient all around

Discussion Questions
1. What are the purposes of testing?
2. What are elements that we should evaluate?
3. What are some basic uses considered for the evaluation process?
4. What are the three domains that are considered would be addressed evaluation assessment?
5. What are some common elements defined in test usability?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 225, 301, 318, JB: none

Topic 3-2: Approaches to Student Assessment

Terminal Learning Objective
At the end of this topic, a student, given design test considerations, will be able to construct assessment instruments that are reliable, so that the assessment instruments are determined to be valid and comprehensive with the objectives or learning outcomes.

Enabling Learning Objectives
1. Determine student assessment
   - Norm-referenced
     - o Measures the accomplishment of one student against that of another
     - o At the end of the instructional unit, an exam is given
     - o The results are scored
     - o Scores are translated into grades
     - o Grades are often based on the distribution of scores which can be either normal or bell shaped
     - o Typically found in promotional testing and determining ranking recruits
   - Criterion-referenced

- o A standard on which to base a decision for judgment
- o Compares student performance with the criteria stated in learning objectives
- o Not with the performance of other students
- o Typically used to evaluate psychomotor skills
2. Evaluating Testing Instruments in Measuring Student Achievement
   - Assessment is based on the students achievement
     - o Oral - Written - Performance tests
     - o May be subjective based on the perception of the learner/student
     - o Instructor must constantly motivate the students, to reach their "affective domain", in order to achieve success which will be determined by the evaluating testing instrument
     - o Can be difficult times if the students are resistant to change
     - o Thus the instructor always has to address the "affective domain"
3. Objective and Subjective Testing
   - Objective tests usually requires the participants to respond with a specific answer, scoring is not influenced by outside factors
     - o Two major categories: recognition tests and recall tests
   - Subjective test is one that has no single correct answer
     - o Three major categories: short answer or completion, essay, and an interpretive exercise
     - o The evaluators judgment therefore affects assessment
     - o Subjective items are an effective way of measuring higher cognitive levels
     - o Maybe open to interpretation buy different instructors as evaluators
4. Determine test validity
   - Test validity is the extent to which a test measures what it is supposed to measure
   - It is built into the task by selecting an ample number of test items for each learning level and content area
   - Test items should require students to display specific knowledge of the appropriate learning objective
   - Test validity has a specific meaning when interpreting criterion-referenced tests
   - Validity refers to measurement of mastery or non-mastery buy a student
   - Considered very critical when comparing to established learning objectives
   - Data collection will show historical significance Love those established learning objectives
5. Determine test reliability
   - A reliable test is one that provides consistent, accurate measurements of student achievement
     - o Clear instructions
     - o Clear, well written test items
     - o Specific scoring criteria
   - Test reliability has a specific meaning when interpreting criterion-referenced tests

- Reliability indicates the consistency of results and classifying mastery or non-mastery of an individual
- Data collection will show historical significance of constant reliability
- Test lengths must be evaluated
    - Generally, longer test are more reliable than short test but may not be more valid
    - Reliability can be less if the test is constantly overly long
- A reliable test is free from:
    - Ambiguous items or directions
    - Vague scoring criteria
    - Environmental distractions
    - Opportunities for cheating or guessing
6. Devoting attention to each of these test characteristics
    - Analyzing a test each time it is given
    - Discarding or rewriting test items that do not meet requirements
    - Together aids in improving test reliability and test validity
    - One important factor that is a threat to validity and reliability is bias
        - Avoid bias towards one group or individual
        - Avoid words or cultural references
        - Avoid ethnic, economic, social, or cultural influences and background
7. Workability/practicability
    - Consider approach with students
    - Consider cross-generational marketing of students
    - Reinforce interaction amongst everyone
        - Instructor to students interaction
        - Student to students interaction
        - Students to instructor interaction
        - How do these change during a educational exchange
8. Describe comprehensiveness of testing
    - Determined by the objectives in the lesson, or session being delivered
    - For each session, there is an objective identified
    - Total coverage each of these objectives or sessions needs to be captured in order to be comprehensive in the testing process which is captured with the test planning sheet
9. Identify discrimination
    - Process for identifying the students with weak performances versus the students that perform well
    - Students that are not performing based on criterion referenced objectives
10. Describe the three sides of the evaluation triangle (unlike the fire triangle)
    - Criteria – enabling learning objectives or learning outcomes
    - Judgment – decision which evaluates results
    - Evidence – test results

Discussion Questions
1. What are the two major types of a reference assessment?
2. What are the three categories of testing instruments used in measuring student achievement?
3. What is the difference between an objective and subjective testing?
4. What is test validity?
5. What is test reliability?
6. Can day test to be discriminatory?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 226, 302, 318, 387, JB: 230, 237, 242-247

Topic 3-3: Test Classifications

Terminal Learning Objective

At the end of this topic, a student, given definitions and classifications of tests, will be able to determine the purpose or direction of assessment evaluation, so that selection of the evaluation assessments meet or conform to industry standards.

Enabling Learning Objectives
1. Identify how criterion-referenced and norm-referenced tests can be divided into more specific classifications
   - Prescriptive
     - Administered at the beginning of instruction to establish a current level of knowledge
     - This generally will be compared to a summative evaluation to determine the amount of learning that has occurred
   - Formative
     - Typical test that is given throughout the course or learning session
     - Used to measure improvement and give the instructor and students feedback on the learning process
     - Basic question: Is the students achieving the objectives?
   - Summative
     - Measures comprehensive knowledge and skills at the end of the course session or major segments of the course
     - Basic question: Has the students achieve the course objectives?
2. Determine administration classification (oral, written, performance)
   - Assessment is based on how the test is administered
     - Oral (verbal questions) which measure either cognitive or a communicative ability
     - Written (multiple-choice, true false, matching, short answer, essay) which measure cognitive ability

- o Performance tests (students ability to perform skills and tasks) which measures psychomotor skill ability
3. Describe capstone testing
   - Capstone exams are administered to student to obtain certifications, licensure examination or national certification
   - State Fire Training is moving towards capstone testing
     - o Prior to July 1, 2012 State Fire Training (SFT) developed and distributed certification exams for each individual course delivered as a component of CFSTES
     - o Since July 1, 2012, SFT no longer develops and distributes certification exams
     - o July 22, 2011 STEAC approved the implementation of the performance based task book process to assess each certification candidate's qualifications. SFT has been phasing in task books as certification tracks and associated courses are updated
     - o As a component of the Mission Alignment Process SFT has been pursuing national recognition in the form of accreditation by both the International Fire Service Accreditation Congress (IFSAC) and the National Board on Fire Service Professional Qualifications (Pro Board).
     - o Both IFSAC and Pro Board require written and/or skills capstone testing to satisfy their respective certification requirements.
     - o In fact, beyond processing procedures the singular focus of their requirements is how a prospective accredited agency (SFT) develops, validates, proctors and scores capstone examinations.
4. Analyze safety considerations involved with testing environments
   - Arrive early to set up
   - Early set up allows for issues to be identified
   - Allow for corrections quickly

Discussion Questions
1. How do we measure if a student is achieving objectives during a learning session?
2. How do I measure that a student has achieved the course objectives?
3. What are the basic concepts of capstone testing?
4. What are some basic safety considerations you should consider involving testing environments?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 227-228, JB: none

Unit 4: Planning Evaluation and Assessment

Topic 4-1: Test Planning

Terminal Learning Objective

At the end of this topic, a student, given test planning design components, will be able to construct a test plan, so that a comprehensive and thorough test plan reflects the overall course objectives or learning outcomes.

Enabling Learning Objectives

1. Determine scope of Test Planning in three major steps
   - Determine test purpose and classification
   - Define learning objectives or learning outcomes
   - Construct the appropriate test items
2. Determine test purpose and classification
   - Instruction must be based on learning objectives
   - The test must reflect those objectives
   - A test item should be included for each objective
   - In addition, a test item should be included for each level of a question
     - o Level one question for level one information
     - o Level two question for level two information
     - o This allows the instructor to identify mastery of one level of information over another
     - o Consider the levels of the cognitive domain learning when writing questions and confirming the depth of that lesson material
3. Tools for Test Item Development
   - Test-planning sheets
     - o Most common form for determining testing elements in concert with objectives
   - Table of specifications
     - o Limited Use – maybe requested by educational institutions desiring more critical thinking with evaluation instruments

Discussion Questions

1. What are the three major steps of test planning?
2. What is a test-planning sheet?
3. What is a table of specifications?
4. What is the basis for the depth of questioning?

Activities

1. To be determined by the instructor
2. Activity: Create a test-planning sheet (group or individual) 30 minutes

Instructor Notes

1. Additional information: IFSTA: 313, JB: 231

Topic 4-2: Test Adaptation

Terminal Learning Objective

At the end of this topic, a student, given test adaptation concepts, will be able to adapt a test, so that an evaluation assessment will eliminate test distractions and maintain test security.

Enabling Learning Objectives

1. Lead time for set-up
   - Prepare skill checklist, along with the appropriate time limits for each of the steps necessary to perform the scale
   - Determine the number of test evaluators, needed to observe and measure the performances of the students
   - Review the operation of unfamiliar the Equipment with all instructors and test evaluators
   - Consider volunteers to test candidates to train the evaluators
2. Describe reasons for adapting tests
   - Ensure complete coverage
   - Filter non-pertinent information for alternative application
   - Update content with latest available information to eliminate outdated content
   - Address specific audiences, different organizations, different agencies
   - When adaptations are made, the instructor should document
     - o The reason for modifications
     - o Types of modifications
     - o The result of the modifications
   - When the testing is part of a certification program or course, the instructor should consult with the Training Division before making any modifications that could jeopardize certification or established objectives
   - Procedures to follow after altering lesson materials
   - If lesson materials were adapted – the testing tools will need to be adapted
     - o Adapt to available resources
     - o Adapt to instructional environment
     - o Adapt to class size
   - Adapt test instruments to be consistent to changes in enabling objectives and
3. Need assessment for ADA concerns
   - Refer to Topic 8-4 for detail on ADA requirements
4. Security of testing components
   - Maintain security through all phases of the test process

Discussion Questions

1. What are some factors to consider for lead time set up with test adaptation?
2. What are some reasons that would require test adaptation?
3. What are some factors to consider with respect to ADA and test adaptation?

Activities

1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: none, JB: none

Topic 4-3: Performance Testing

Terminal Learning Objective

At the end of this topic, a student, given performance testing design concepts, will be able to construct a performance test, so that a measureable performance test is administered meeting objectives or learning outcomes with maximum safety observations.

Enabling Learning Objectives
1. Lead time for set-up
   - Determine the materials, tools, or it could with the students must have in order to perform the skills or activities
   - Prepare skill checklist, along with the appropriate time limits for each of the steps necessary to perform the scale
   - Determine the number of test evaluators, needed to observe and measure the performances of the students
   - Review the operation of unfamiliar the Equipment with all instructors and test evaluators
   - Consider volunteers to test candidates to train the evaluators
2. Security of testing location
   - Maintain as much as possible the security every test site
   - Avoid areas and spaces accessible by the public
   - Maintain test scrutiny by maintaining test security
3. Consider alternative evaluators if a retest is going to be scheduled
4. Safety Management concerns
   - Have Safety Officer Assigned to troubleshoot predictable situations
   - Consider having an incident action plan to cover the testing process, site access, evolution assigned areas, skills assigned areas, staging areas, or restricted areas to be identified
   - Includes a medical plan in your incident action plan

Discussion Questions
1. What are some common factors to consider for lead time set up with performance testing?
2. What are some pitfalls or weaknesses you should consider with security of the testing location?
3. What are some factors to consider for alternatives if a retest is to be scheduled?
4. What are some safety factors to consider with performance testing?

Activities
1. To be determined by the instructor
2. Allow 2 Hours for Performance Testing

Instructor Notes
1. Additional information: IFSTA: 309-312, JB: 247

Unit 5: Methods of Evaluation

Topic 5-1: Cognitive Evaluation

Terminal Learning Objective

At the end of this topic, a student, given cognitive evaluation concepts, will be able to construct a cognitive evaluation assessment tools, so that a cognitive test is administered meeting objectives or learning outcomes correlating to course materials.

Enabling Learning Objectives

1. Identify the learning objectives that the test will evaluate
   - Major consideration to consider: the objective or learning outcome
   - This occurs after determining the purpose and classification of the test
   - Learning objectives reflect the course outcomes
   - This is what students should have a learned at the end of the course
     - Example: Upon completion of _____ course, the student, given proper equipment, will be able to perform _____, so that _____ are followed without safety violations.
   - The test should be based upon the specific objectives taken from each part of the course for individual lesson plan
   - They are specific, detailed, and measurable
   - Should have an identified level of proficiency that each student must achieve which is captured by the type and depth of the tests use to measure these objectives
2. Identify the cognitive levels of learning assessed during evaluation (the first three are most common in the fire service / vocation education)
   - Remember (Knowledge)
   - Understand (Comprehension)
   - Apply (Application)
   - Analyze (Analysis)
   - Evaluate (Evaluation)
   - Create (Synthesis)
3. Identify common considerations for all tests
   - Test formatting
   - Arrangement of test items
   - Test item level of cognition
   - Difficulty of test items
   - Test instructions
   - Test item example
   - Time requirements
4. Identify the basic test item construction elements
   - Stem consist of either a question or incomplete statement
   - Choices (alternatives) are the total responses possible for the student to consider

- Answer is the one correct choice from the possible alternatives
- Distractors are the remaining choices of the alternatives
  - Distractors discriminate between students who understand the subject material versus the students who know only a little and therefore are uncertain about the correct answer
- Avoid specific determiners, or clues or severe distractors
- Avoid all of the above/some of the above
- Avoid grammatically incorrect
- Eliminate language and comprehension barriers
  - Higher reading level then the students possess
  - Lengthy, or unclear sentences
  - Vague directions
  - Unclear graphic materials
  - Obsolete words or terms
5. Identify the types of evaluation tests
   - Multiple-Choice Tests
   - True-False Tests
   - Matching Tests
   - Short-Answer Tests
   - Essay Tests
   - Interpretive Exercises
6. Describe the considerations involved in cognitive evaluations
   - Bias

Discussion Questions
1. What is the major consideration to consider when designed a cognitive evaluation?
2. What are the three most common elements for considerations with a cognitive evaluation?
3. What are common considerations regarding fault test?
4. What are common basic test item construction elements?
5. What are the common written types of the evaluation tests?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 228, 302-303, JB: 231, 241

Topic 5-2: Psychomotor Evaluation

Terminal Learning Objective

At the end of this topic, a student, given psychomotor evaluation concepts, will be able to construct a psychomotor evaluation assessment tools, so that the psychomotor evaluation is administered meeting objectives or learning outcomes correlating to course materials.

Enabling Learning Objectives
1. Define psychomotor tests

- A performance or skills test that measures a student's proficiency in performing any task that involves psychomotor objectives
- Assessment is based on either:
  - Speed standard (timed performance) <u>or</u>
  - A quality standard - minimum acceptable performance <u>or</u>
  - Both
- Performance test require students to demonstrate psychomotor proficiency after appropriate practice for drill sessions

2. Describe psychomotor evaluation guidelines
   - Specify performance objectives to be measured
   - Select rating factors on which the test will be judged
   - Provide written instructions that clearly explains the
   - Test situation try a new performance test on other
   - Before administering it to the students use more than one test evaluator
   - Follow established
   - When administering the test, make a score distribution chart after test has been administered
   - Rotate team members to every position for the team evaluation ratings
   - A performance test is the only valid method of measuring students' ability to perform

3. Identify the types of psychomotor tests
   - Individual skill
   - Company skill
   - Multi-company skill
   - Project Approach
     - Proboard/IFSAC will be moving towards this approach of more in depth assessment for JPRs for advance levels of testing
   - Be sure to manage safety at all time for all types of evaluations

4. Describe the considerations involved in psychomotor evaluations
   - Bias

5. Safety Management concerns
   - Paramount
   - Very critical factor that must be constantly evaluated
   - *"Did I mention – Safety?"*

6. Site Survey
   - Accessibility
   - Site overview
   - Safety
   - Being proactive to performance barriers
   - Site security

Discussion Questions
1. What is a definition of the psychomotor test?

2. What are some psychomotor evaluation guidelines?
3. What are the types I'm psychomotor test?
4. What are some of pitfalls of being considered biased in a psychomotor evaluation?
5. What one factor has to be considered is Very critical with respect to psychomotor testing?
6. What are some factors to consider with a site survey?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 309-312, JB: 247

Unit 6: Construction and Use of Cognitive Evaluation Instruments

Topic 6-1: Constructing Multiple-Choice Tests

Terminal Learning Objective

At the end of this topic, a student, given components and concepts of cognitive evaluation instruments, will be able to construct cognitive evaluation instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define multiple choice test
   - Single question followed by multiple possible answers, of which only one is correct
   - You're Very beneficial type of test use to measure achievement in abroad Area of subject matter
   - May be considered minimal measurement because the answer is provided, the issue is can the student recognize the answer
2. Describe components and aspects of a multiple-choice test
   - Stem consist of either a question or incomplete statement
   - Choices (alternatives) are the total responses possible for the student to consider
   - Answer is the one correct choice from the possible alternatives
   - Distractors are the remaining choices of the alternatives
3. Develop effective construction techniques
   - Include an example item with example answer
   - Write this them in the form of a direct question or incomplete statement
   - Confirm that you're measuring only one learning outcome
   - Be clear, with a brief stem that contains most of the wording
   - Write positive statements
   - If negative statements are used, emphasize the negative word with underline for bold
   - Make sure that the distractors are plausible enforce this student to think
   - Make all the choices the same length
   - Avoid using phrases such as all the above or none of the above

- Place correct answers in varied positions on among A, B, C, and D choices
- Place each choice on a separate line
- Utilize State Fire Training format or a AHJ format if more restrictive
    - Specific for matting details maybe determined or restricted by vocal policy, or computer generated software

Discussion Questions
1. What is a multiple-choice test?
2. What are the components of a multiple-choice test?
3. What are some common construction techniques with a multiple-choice test?

Activities
1. Allow 1 hour for activity OR
2. Activity addresses topics 6-1 through 6-4. Allow 5 hours to each of four types of tests and to present them.
3. Instructor note can break it up to have them do some after each topic or make one big test out of all of them. Must be completed in class.

Instructor Notes
1. Additional information: IFSTA: 299, 302-303, 316, JB: 240

Topic 6-2: Constructing True-False Tests

Terminal Learning Objective
At the end of this topic, a student, given components and concepts of true-false tests, will be able to true-false test instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define true-false test
   - Students determine whether a statement is true or false
   - Very beneficial type of test to create interactive classroom discussion perhaps because the answer maybe more true than false
2. Describe components and aspects
   - Include an example item with example answer
   - Difficulty exist with constructing the statement that is either completely true or completely faults
   - Avoid specific determiners
5. Avoid words such as Lead time for set-up
   - Sometimes," "generally," "usually," "often" which are clues to true statements
   - Avoid words such as "always," "never," "all," "none" which are clues to false statements
   - Avoid double negative items
   - Avoid pronouns especially such as "you"
   - Avoid quoting verbatim from the book
3. Develop effective construction techniques
   - Be consistent with that length of the statements

- True statements should be based upon facts
- False statements should be based on common misconceptions of the facts
- Write statement items that require a student to think about what they have learned, rather than merely what is remembered about an item
- Create a sufficient number of test items better based on true or fault statements
- Utilize State Fire Training format or a AHJ format if more restrictive
  - Specific for matting details maybe determined or restricted by vocal policy, or computer generated software

Discussion Questions
1. What is a true-false test?
2. What are the components of a true-false test?
3. What are some common construction techniques with a true-false test?

Activities
1. Allow 30 minutes for activity OR
2. Activity addresses topics 6-1 through 6-4. Allow 5 hours to each of four types of tests and to present them.
3. Instructor note can break it up to have them do some after each topic or make one big test out of all of them. Must be completed in class.

Instructor Notes
1. Additional information: IFSTA: 304, JB: 244

Topic 6-3: Constructing Matching Tests

Terminal Learning Objective
At the end of this topic, a student, given components and concepts of matching tests, will be able to construct matching test instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define matching test
   - Students match dates, events, or items from one call with appropriate definitions from the second column
   - Very beneficial type of test to measure basic terminology or basic concepts
2. Describe components and aspects
   - Construct two parallel columns of words, phrases, images or a combination of these
3. Develop effective construction techniques
   - Include an example item with example answer
   - Place appropriate titles at the head of each column
   - Arrange problems in a systematic manner (consider instructional order)
   - Utilize imperfect columns or choices to force the student to select from appropriately from plausible alternatives (more responses than problem statements)
   - For every item in the problem column there should be one clear matching response
   - List the Choices in alphabetical order, chronological order, or numerical order
   - Avoid specific determined there's four clues to the answers

- Do not include responses that are obviously wrong
- Instruction should indicate whether a response can be used more than once
- Utilize State Fire Training format or a AHJ format if more restrictive
  - Specific for matting details maybe determined or restricted by vocal policy, or computer generated software

Discussion Questions
1. What is a matching test?
2. What are the components of a matching test?
3. What are some common construction techniques with a matching test?

Activities
1. Allow 30 minutes for activity <u>OR</u>
2. Activity addresses topics 6-1 through 6-4. Allow 5 hours to each of four types of tests and to present them.
3. Instructor note can break it up to have them do some after each topic or make one big test out of all of them. Must be completed in class.

Instructor Notes
1. Additional information: IFSTA: 306, JB: 242

Topic 6-4: Constructing Short-Answer (Completion) Tests

Terminal Learning Objective

At the end of this topic, a student, given components and concepts of short-answer, will be able to construct short answer test instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define short-answer test
   - Type of test where questions require a brief factual answer (limited selection of answers or like answers)
   - Very beneficial type of test to measure higher level of understanding
2. Describe components and aspects
   - Involves hey process of utilizing questions that requires an answer from recall memory
   - Can be an incomplete statement with a keyword(s) eliminated with the missing word having a blank line
3. Develop effective construction techniques
   - Include an example item with example answer
   - Create short, concise, and direct statements so that only one answer is possible
   - Avoid long, involve statements with a string of blanks to fill
   - Start with a direct question and change it to an incomplete statement
   - Ensure that the answer is a key point in the lesson
   - Arrange the statement in order to place the plank at or near the end of a sentence
   - Avoid statements that call for answers with more than one word, phrase, or number
   - Eliminate clues in the statement

- Utilize State Fire Training format or a AHJ format if more restrictive
  - Specific for matting details maybe determined or restricted by vocal policy, or computer generated software

Discussion Questions
1. What is a short-answer test?
2. What are the components of a short-answer test?
3. What are some common construction techniques with a short-answer test?

Activities
1. Allow 30 minutes for activity OR
2. Activity addresses topics 6-1 through 6-4. Allow 5 hours to each of four types of tests and to present them.
3. Instructor note can break it up to have them do some after each topic or make one big test out of all of them. Must be completed in class.

Instructor Notes
1. Instructor can break up the activity to have students do some after each topic; or make one big test out of all of them. Activity must be completed in class.
2. Additional information: IFSTA: 307, JB: 244

Topic 6-5: Constructing Essay Tests

Terminal Learning Objective

At the end of this topic, a student, given components and concepts of essay tests, will be able to construct essay test instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define essay test
   - Type of test where questions requires a lengthy, sometimes subjective answer
   - Very beneficial type of test to measured in depth knowledge bye-bye single particular item
2. Describe components and aspects
   - Create a guideline for constructing the essay test
   - Take note of the objectives that must be met when scoring the essay
   - Write an outline of the acceptable responses
   - The outline will be used as a guide for scoring the individual essays
3. Develop effective construction techniques
   - Clearly defined the task to be completed when responding to each question
   - Give thorough and specific directions that designate
     - The time to spend on each question
     - The length of each response
   - Provide enough time for students to respond to all questions
   - Document appropriate plausible answers that must be accepted for all essays submitted
     - These answers will accumulate in time if the same testing tool is utilized

- Utilize State Fire Training format or a AHJ format if more restrictive
  - Specific for matting details maybe determined or restricted by vocal policy, or computer generated software

Discussion Questions
1. What is an essay test?
2. What are the components of an essay test?
3. What are some common construction techniques with an essay test?

Activities
1. To be determined by the instructor
2. Allow 30 minutes

Instructor Notes
1. Additional information: IFSTA: 308, JB: 245-247

Topic 6-6: Constructing Interpretive Exercises

Terminal Learning Objective
At the end of this topic, a student, given components and concepts of interpretive exercises, will be able to construct interpretive exercises, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define interpretive exercise
   - Type of test that is subjective where instructional material is presented where then the student responds to various types of questions to measure achievement
   - Very beneficial type of test to measured higher level of cognitive processes
   - Very beneficial type of exercise that incorporates case studies, fire analysis, for target assessment or hazard assessment
   - Effective method for testing outcomes that involve comprehension, application, analysis, synthesis, and evaluation
2. Describe components and aspects
   - Introductory material such as data, graphs, paragraphs of text, situations which are followed by a series of test items or evaluation instruments
3. Develop effective construction techniques
   - Make sure that all introductory material relates to the key learning objectives and is concise as possible
   - For each item, apply relevant guidelines for each effective item construction
   - Use test items that require the same type of performance that is listed in the test specifications for the various learning objectives
   - Create introductory material that is unfamiliar to the students, this will force the students to rethink elements of the situation and then in turn apply different responses
   - Answers to the test Instruments should not be contained in the introductory material

- Answers cannot be identified without reading or utilized without reading the introductory material
- This is very important to reach the third level of the cognitive domain - Application
4. Develop interpretive exercises
   - Should incorporate case studies (in class)
   - Create "What if" scenarios' for potential target or high risk targets located in AHJs jurisdiction
5. All of the previous information also applies to simulations
   - Evaluate for jurisdictional or hazard target
   - Include "what if" or wild cards to change up the scenarios for optional alternatives

Discussion Questions
1. What is an interpretive exercise?
2. What are the components of an interpretive exercise?
3. What are some common construction techniques with an interpretive exercise?

Activities
1. To be determined by the instructor
2. Allow 1 Hour for activity

Instructor Notes
1. Additional information: IFSTA: 308, JB: 169, 196

Unit 7: Construction and Use of Psychomotor Evaluation Instruments

Topic 7-1: Constructing Performance Evaluations

Terminal Learning Objective
At the end of this topic, a student, given components and concepts of psychomotor evaluations, will be able to construct psychomotor evaluation instruments, so that test item construction is completed with SFT guidelines or meeting college educational standards.

Enabling Learning Objectives
1. Define components and aspects
   - Must be used when confirming psychomotor skills learning, or hands-on skills
   - Identify psychomotor skills from the objectives from the instructional materials
2. Describe effective construction techniques
   - Should be administered under controlled conditions
   - Specify performance objectives to be measured
   - Select rating factors on which a test will be judged
   - Rate the students against the standard, criterion reference standards
   - Consider combining several basic skills into a task which will reduce time required for administration
   - Design a rating form that may include:
     o Students approach to a standard job core procedure
     o Care shown in handling tools, equipment, and

- o Materials demonstration of accuracy
        - o Display of confidence
        - o Time required to complete the job or procedure safely
        - o Observation of safe practices
    - Try a new performance test on other instructors before using it on students
        - o This will attempt to confirm and measure the validity
        - o Allows to uncover problems that can't be corrected in the design process
    - Utilize State Fire Training format or a AHJ format if more restrictive
        - o Specific for matting details maybe determined or restricted by vocal policy, or computer generated software
3. Develop psychomotor evaluation (manipulative performance evaluation) in class
4. Describe the importance of practicing with a test-data group the designed performance evaluation prior to testing students

Discussion Questions
1. What are some components in aspects to consider when designing a psychomotor evaluation?
2. What are some defective construction techniques of a psychomotor evaluation?
3. Why should you practice with a test-data group?

Activities
1. Psychomotor evaluation to be constructed during class
2. Allow one (1) Hour for activity

Instructor Notes
1. Additional information: IFSTA: 309-312, JB: 247

Unit 8: Administering Evaluations and Assessments

Topic 8-1: Managing Evaluation Systems

Terminal Learning Objective
At the end of this topic, a student, given components of an evaluation and design elements of a course, will be able to develop an evaluation system and conduct an evaluation, so that instuctors, course materials, and students learning process is validated and deemed reliable.

Enabling Learning Objectives
1. Defined appropriate evaluation instruments
    - To determine the effectiveness of the course
    - To determine the effectiveness of the instructors
        - o Provides an assessment of the instructors performance, teaching methods, and training skills
    - To determine the accomplishments of the students who participate in the course
        - o Provides feedback on the students knowledge and
        - o Students skill level and
        - o Assesses need for further study or further practice

- To identify the course strengths
- To identify the course weaknesses
2. Describe evaluation aspects of a course:
   - Evaluate the course outline or curriculum material
     - Confirm the curriculum goal
     - Identify courses or course content for the curriculum
     - Confirmed this sequence of the course content into a logical sequence
   - Time allotted for the course's
   - Equipment used or needed
   - Instructor expectations
   - Student expectations
   - Instructional methods used
   - Learning environments used
   - Evaluation methods used
   - Feedback with the students
     - Pre-test
     - Post-test
3. Describe evaluation of the assessment instruments
   - Provides feedback on test validity
   - Provides feedback on test reliability
   - Provides results to analyze reasons for failure and determining areas to adjust and improve
   - Low scores could indicate one of the following:
     - Instructors did not teach to the objectives
     - Course was not suited to the level of the students
     - Evaluation instruments may not have been valid
4. Describe elements of curriculum design
5. Describe identifying curriculum goal
6. Identify courses for the curriculum
7. Identify sequence of courses into a curriculum

Discussion Questions
1. What are basic components of an evaluation?
2. What are the elements of course that should be evaluated?
3. What are elements of the assessment instruments that should be evaluated?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 382-383, 401-402, JB: 234

Topic 8-2: Administering Evaluations

Terminal Learning Objective

At the end of this topic, a student, given specific considerations for individual testing and elements of test security, will be able to administer and manage an assessment evaluation, so that bias is eliminated and federal, state, and local ordinances are followed.

Enabling Learning Objectives

1. Identify specific considerations for individual testing needs
   - Be responsive to individuals' prescriptions for test taking
   - Generally predetermined or pre-identified
2. Determine test security
   - Before the test
   - During the test
   - After the test
   - Evaluate for electronic devices
3. Describe administration of the different types of tests
4. Determine conditions of test bias
   - A test is considered bias when members of different groups with the same ability level routinely scored differently on a test
   - Conditions indicating bias include age, cultural bias and gender
   - All instructors have an obligation to eliminate testing bias when ever it is identified
     o Gender reference - personal pronouns
     o Ethnic references are stereo typical
     o Cultural references that do not reflect the culture knowledge of a likely tested group
     o Regional jargon or dialect
     o Terminology or vocabulary in the test that is unfamiliar to the students taking the test
   - Equal Employment Opportunity Commission (EEOC) has the responsibility of investigating any bias on employment tests
     o Uniform Guidelines For Employee Selection (1978, EEOC, Title VII) is the law of the land
     o Primarily focuses on employee selection or promotional procedures
5. Evaluate the testing environment
   - Accessibility
   - Site overview
   - Safety
   - Bathrooms meet parameters
   - Appropriate lighting
   - Comfortable seating
   - Quiet surroundings
   - Regulated temperature
   - Being proactive to performance barriers
6. Determine scoring card and methods of scoring criteria

- Composite scoring is use for criterion reference test
- Lesson or course outlines established the point value
  - Activities
  - Assignments
  - Tests
- Scoring electronically it Is usually considered most accurate
- Scoring manually leaves room for errors

7. Determine grade reporting
   - Be cautious of grading bias
   - Scores must be recorded and reported in accordance with local jurisdiction or AHJ
8. Conduct evaluation feedback
   - Meet individually with the students to discuss
   - The test review and correct answers with the entire class
   - Reviewing correct and incorrect answers is becoming an industry standard in education and vocational arenas
   - Large audience response with an incorrect answer may require evaluation of the teaching or instructional material
   - May need to consider a test item analysis
   - Weaknesses identified in performance tests may identify the necessity for additional practice time

Discussion Questions
1. What are some considerations for conditions that will require individual testing needs?
2. What are some additional tests security needs?
3. What are some conditions of test bias that may occur because of these needs?
4. What additional elements may complicate testing environment?
5. What are some scoring card or methods of scoring criteria alternatives?

Activities
1. To be determined by the instructor
2. Allow 1 Hour for activity

Instructor Notes
1. Additional information: IFSTA: 230-239, JB: 34, 235

Topic 8-3: Test and Item Analysis

Terminal Learning Objective
At the end of this topic, a student, given concepts of test and item analysis, will be able to perform a test analysis, so that items can be confirmed remaining valid and reliable without bias.

Enabling Learning Objectives
1. Identify potential for bias (grading, testing)
2. Determine test result analysis
   - Most generally is conducted with computers software
   - Process that analyzes

- o Mean score
- o Average score
- o Highest score
- o Lowest score
- o Test items most frequently missed
- o Test items most frequently passed
- Students will complete a test results analysis using a simple Excel chart in an activity
    - o If 100% of the student audiences passing a question may be over taught or may not be discriminating enough to sort non-performing students from the performing students
    - o If a large portion of the students I'm not passing the question, the topic may not have been covered thoroughly enough for the question is posed in a higher level training then what was taught
    - o Professional educational developers report that 25% of the audience should miss a question that is considered discriminating (75% pass)
3. Determine test item analysis
    - Process that allows instructors to use systematic methods to assess the quality of individual test items
    - Three relatively simple measures of quality can't be calculated when using a multiple-choice test item format
        - o Difficulty index
        - o Discrimination index
        - o Distractor analysis
    - May need to consider removing port test items for recalculating scores
    - Review the test analysis, but just the test items, and give the test again
    - May need to teach the lesson session again for a retest

Discussion Questions
1. What are some potential buyers when evaluating test analysis for item analysis?
2. What can be considered different test result factors in an analysis?
3. What is the difference between a test item analysis and test analysis?

Activities
1. Activity have students build a test analysis (not item analysis)
2. Allow 30 minutes

Instructor Notes
1. Additional information: IFSTA: 388, JB: 237, 333-339

Topic 8-4: Compliance with Laws Addressing Special Accommodations

Terminal Learning Objective
At the end of this topic, a student, given laws and ordinances, will be able to confirm compliance with requirements, so that federal, state and local laws are maintained without issues requiring further adaptation while utilizing resources as needed.

Enabling Learning Objectives

1. Identify how instructors are governed by three sources of law:
   - Federal law, which is made up of statutory laws
   - State law, which is established by each state's legislature
   - Policies and procedures adopted by each individual fire agency
2. Identify Americans with Disabilities Act (ADA) /legal issues p. 28–48 J&B
   - Prohibits discrimination against a student
   - Instructors and training organizations must provide reasonable accommodation for students with documented disabilities
   - Once such disability for example: might be to give additional time for written exams
   - It is estimated that 3 to 13% of the general population of the United States have some type of learning disability
   - Most common types of neurological in origin and affect individual's ability to perform such following actions:
     - Understand or think
     - Use the spoken or written word
     - Perform mathematical functions
     - Perform fine psychomotor skills
   - Responsibility to maintain confidentiality
   - Students are required by the US federal law to have documentation proving that they have a learning disability
   - If students do not have documentation, they will need to be diagnose and provide documentation before the reasonable expectation of appropriate accommodation
3. Define Americans with Disabilities Act three major categories:
   - Speech and language disorders
   - Academic skills disorders
   - Miscellaneous learning disabilities
4. Identify guidelines for individuals with G.I. Bill educational benefits
   - Many benefits are available to advance the education and skills of Veterans and Service members
   - Spouses and family members may also be eligible for education and training assistance
   - Fact, 25 percent of those benefitting from VAs education programs are non-Veterans
   - Some might find they're eligible for more than one benefit or that one program is more suited to certain education and training goals than another
   - Many education and training programs offer various education and training benefits or increased benefits to certain Reservists and Veterans and their survivors and dependents:
     - Reserve Educational Assistance Program
     - Veterans Educational Assistance Program
     - Survivors and Dependents Educational Assistance Program

        o   National Testing Program

        o   National Call to Service Program

5. Identify state law (AB 422, Title V)
   - Confirm policies of AHJ
   - The bill requires many elements
   - Verification of disability and functional limitations may be confirmed based on local ordinances or AHJs
   - http://www.leginfo.ca.gov/pub/99-00/bill/asm/ab_0401-0450/ab_422_bill_19990915_chaptered.html
6. Describe required adaptations for administration
   - Timing
   - Environment
   - A student assistant that reads test material
   - Increasing the size of student handouts for easier rebility
7. Identify resources available to instructors
   - HR
   - College student resources
   - County
   - Instructors need to know how to consult with appropriate resources on how to proceed when needs for reasonable accommodation are identified
8. Identify anti-discrimination policies

Discussion Questions
1. What is a brief synopsis of the Americans with Disabilities Act?
2. What are the three major categories ADA?
3. What are some Basic guidelines when dealing with individuals with the G.I. Bill educational benefits?
4. What are the implications of State Law, AB 422?
5. What resources are available to instructors when dealing with some of these topics?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 21, 172, 350, 435 JB: 28, 31

Topic 8-5: Administering Course Evaluations

Terminal Learning Objective

At the end of this topic, a student, given components of a course evaluation and design elements of a course, will be able to develop an evaluation system and conduct an course evaluation, so that instuctors, students, and materails involved in learning process are validated and deemed reliable.

Enabling Learning Objectives
1. Defined the basic components of an evaluation
   - To determine the effectiveness of the course

- To determine the effectiveness of the instructors
  - Provides an assessment of the instructors performance, teaching methods, and training skills
- To determine the accomplishments of the students who participate in the course
  - Provides feedback on the students knowledge and
  - Students skill level and
  - Assesses need for further study or further practice
- To identify to course strengths
- To identify the course weaknesses
2. Evaluation aspects of a course:
   - Evaluate the course outline or curriculum material
     - Confirm the curriculum goal
     - Identify courses or course content for the curriculum
     - Confirmed this sequence of the course content into a logical sequence
   - Time allotted for the course's
   - Equipment used or needed
   - Instructor expectations
   - Student expectations
   - Instructional methods used
   - Learning environments used
   - Evaluation methods used
   - Feedback with the students
     - Pre-test
     - Post-test
3. Evaluation of the assessment instruments
   - Provides feedback on test validity
   - Provides feedback on test reliability
   - Provides results to analyze reasons for failure and determining areas to adjust and improve
   - Low scores could indicate one of the following:
     - Instructors did not teach to the objectives
     - Course was not suited to the level of the students
     - Evaluation instruments may not have been valid
4. Describe elements of a summative evaluation
   - Did the students meet learning objectives and course or curriculum goals?
   - Was training conducted as design and within the resources allocated?
   - Evaluate the students scores on written or performance test
   - Evaluate the students behaviors observed in the field
   - Evaluate feedback from the students and instructors
   - Evaluate feedback from field supervisors
5. Development direction after analyzing the course evaluation

- Record and report if the evaluation of the course successfully met the course and curriculum goals
- Determine whether the course delivery continues as is
- Determine if the course continues with necessary adjustments
- Determine if the course is to be discontinued
- Evaluate the pretest and posttest with an analysis

6. Describe the effectiveness of tools or electronic solutions
   - Did the material support the objectives?
   - Where the materials relevant for applicable to the job requirements?

7. Described detailed elements that may evaluate instructors performance
   - The Instructors knowledge of the subject
   - Instructors enthusiasm for the topic
   - Instructors knowledge to assist mastering the content
   - Instructors preparation
   - Instructors organization
   - Instructors capability to relate to or interact with the students
   - Instructors response to answer students questions
   - Instructor skill to follow up with students questions or concerns
   - May need to consider subject matter experts to sit in on the course to evaluate the instructors

8. Identify potential learning resource centers, assessment centers, testing centers, e-learning/testing, computer-based testing that could be utilized or evaluated for maximum benefit to the course goals

Discussion Questions
1. What are basic components of an evaluation?
2. What are the elements of course that should be evaluated?
3. What are elements of the assessment instruments that should be evaluated?
4. What aspects should be evaluated when discussing the instructor?
5. What aspect should be evaluated when discussing the course?

Activities
1. To be determined by the instructor

Instructor Notes
1. Topic 8-5: Administering Course Evaluations is different compared to Topic 8-1: Managing Evaluation Systems. Some material are similar in nature, try to prevent confusion with the students.
2. Additional information: IFSTA: 382, 386-389, JB: 262, 266

Topic 8-6: Reporting of Test Administration

Terminal Learning Objective

At the end of this topic, a student, given elements and mandates regarding privacy and accessibility to educational records, will be able to report results, so that established

guidelines for reporting the results of administration of assessment evaluation is maintained.

Enabling Learning Objectives

1. Define privacy of records and reports
   - Records that must be confidential and include personnel files, individual training records, and medical files
   - And other personal information that must be safeguarded to ensure privacy includes:
     o Social Security numbers
     o Personnel files
     o Test scores
   - Family Educational Rights and Privacy Act (FERPA) also referred to as Buckley Amendment
     o Prohibits the release of this type of information
     o Restrictions can be different and variable depending on jurisdiction
     o AHJ restrictions apply
     o The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records
     o FERPA the law applies to all schools that receive funds under an applicable program of the U.S. Department of Education
     o FERPA may have implications if any training funds can be sourced to any federal funding, or passing of funding through state to local jurisdictions
     o Every AHJ has to obtain their specific legal counsel regarding FERPA
   - Open Records Act
     o Many jurisdictions exempt some information from the provisions of the open records act
     o These exemptions are limited
     o Have been interpreted very narrowly by courts
2. Identify State Fire Training guidelines
   - Governs all educational records under the same guidance that colleges follow
   - A court order must be produced in order to gain access for educational use or for investigations
   - At this time, State Fire Training does not administer or respond to written request authorizing the release of records to third parties
3. Identify college requirements or guidelines
   - Every college administers their respective students educational privacy
   - Students are generally given to free transmissions of their educational records, Otherwise fees are charged for release of educational information
4. Follow established guidelines for reporting the results of the administration of assessment evaluation
5. Describe retention and length of records and reports

- Record retention depends on the federal, state, local laws, and AHJs depending on the specific type of record
- Employment records may be retained for just a couple years
- Exposure reports and document to investment retained for The same or longer number of years following retirement or termination of the employee
- Instructors should consult AHJs human resources or legal departments for retention guidelines of all training records and any other types of records

Discussion Questions
1. Define records and reports are considered private?
2. Define records and reports that are considered within the guidelines of the freedom of information act?
3. What are The Family Education Rights and Privacy Act?

Activities
1. To be determined by the instructor

Instructor Notes
1. Additional information: IFSTA: 347, 348, 412, JB: 34, 360

Time Table

Segment	Lecture Time	Activity Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	00:30		
Activity 1-1: Recommended by SFT		00:30	
Topic 1-2: Instructor Certification Process			
Lecture	00:30		
Activity 1-2: Instructor determined		00:00	
Topic 1-3: Definition of Duties			
Lecture	00:30		
Activity 1-3: Instructor determined		00:00	
Unit 1 Totals	**1:30**	**00:30**	**2:00**
Unit 2: Federal and State Vocational Laws			
Topic 2-1: Performance Based Accountability in Federal Law			
Lecture	1:00		
Activity 2-1: Instructor determined		00:00	
Topic 2-2: State and Federal Law Implications to Training			
Lecture	1:00		
Activity 2-2: Instructor determined		00:00	
Unit 2 Totals	**2:00**	**00:00**	**2:00**
Unit 3: Principles of Evaluation			
Topic 3-1: Review Purposes and Principles of Testing			
Lecture	1:00		
Activity 3-1: Instructor determined		00:00	
Topic 3-2: Approaches to Student Assessment			
Lecture	1:00		
Activity 3-2: Instructor determined		00:00	
Topic 3-3: Test Classifications			
Lecture	1:00		
Activity 3-3: Instructor determined		00:00	
Unit 3 Totals	**3:00**	**0:00**	**3:00**
Unit 4: Planning Evaluation and Assessment			
Topic 4-1: Test Planning			
Lecture	1:00		
Activity 4-1: Test Planning Sheet		00:30	

Segment	Lecture Time	Activity Time	Total Unit Time
Topic 4-2: Test Adaptation			
Lecture	00:30		
Activity 4-2: Instructor determined		00:00	
Topic 4-3: Performance Testing			
Lecture	1:00		
Activity 4-3: Performance Testing		2:00	
Unit 4 Totals	**2:30**	**2:30**	**5:00**
Unit 5: Methods of Evaluation			
Topic 5-1: Cognitive Evaluation			
Lecture	1:00		
Activity 5-1: Instructor determined		00:00	
Topic 5-2: Psychomotor Evaluation			
Lecture	00:30		
Activity 5-2: Instructor determined		00:00	
Unit 5 Totals	**1:30**	**00:00**	**1:30**
Unit 6: Construction and Use of Cognitive Evaluation Instruments			
Topic 6-1: Constructing Multiple-Choice Tests			
Lecture	00:30		
Activity 6-1: Develop test		1:00	
Topic 6-2: Constructing True-False Tests			
Lecture	00:15		
Activity 6-2: Develop test		00:30	
Topic 6-3: Constructing Matching Tests			
Lecture	00:15		
Activity 6-3: Develop test		00:30	
Topic 6-4: Constructing Short-Answer (Completion) Tests			
Lecture	00:15		
Activity 6-4: Develop test		00:30	
Topic 6-5: Constructing Essay Tests			
Lecture	00:15		
Activity 6-5: Develop test		00:30	
Topic 6-6: Constructing Interpretive Exercises			
Lecture	00:30		
Activity 6-6: Instructor determined		1:00	
Allow 1 additional hour for wrap up		1:00	
Unit 6 Totals	**2:00**	**5:00**	**7:00**

Segment	Lecture Time	Activity Time	Total Unit Time
Unit 7: Construction and Use of Psychomotor Evaluation Instruments			
Topic 7-1: Constructing Performance Evaluation			
Lecture	00:30		
Activity 7-1: Instructor determined		1:00	
Unit 7 Totals	**00:30**	**1:00**	**1:30**
Unit 8: Administering Evaluations and Assessments			
Topic 8-1: Managing Evaluation Systems			
Lecture	1:00		
Activity 8-1: Instructor determined		00:00	
Topic 8-2: Administering Evaluations			
Lecture	1:00		
Activity 8-2: Instructor determined		1:00	
Topic 8-3: Test and Item Analysis			
Lecture	1:00		
Activity 8-3: Instructor determined		00:30	
Topic 8-4: Compliance with Laws Addressing Special Accommodations			
Lecture	1:00		
Activity 8-4: Instructor determined		00:00	
Topic 8-5: Administering Course Evaluations			
Lecture	1:00		
Activity 8-5: Instructor determined		00:00	
Topic 8-6: Reporting of Test Administration			
Lecture	00:30		
Activity 8-6: Instructor determined		00:00	
Unit 8 Totals	**5:30**	**1:30**	**7:00**
	18.5	10.5	29
Lecture, Activity, and Unit Totals:	**18:30**	**10:30**	**29:00**

Course Totals

Total Lecture Time (LT)	18.30
Total Activity Time (AT)	10:30
Total Testing Time	03:00
Total Course Time	**32:00**