

CERTIFICATION CURRICULUM MANUAL – CHAPTER EIGHT

INSTRUCTOR III

SECTION 803

FIRE INSTRUCTOR III

A Fire Instructor III is a fire service instructor who, in addition to meeting Instructor II qualifications, has demonstrated the knowledge and ability to:

- **develop comprehensive training curriculum and programs** for use by single or multiple organizations
- **conduct organization needs analysis**
- **develop training goals and implementation strategies**

803-6.1 General

For certification at Level III, the Fire Instructor II shall meet the job performance requirements (JPRs) defined in Sections 803-6.2 through 803-6.5 of this standard.

803-6.2 Program Management

803-6.2.1 **Definition of Duty.** The administration of agency policies and procedures for the management of instructional resources, staff, facilities, records, and reports.

803-6.2.2 Administer a training record system, given agency policy and type of training activity to be documented, so that the information captured is concise, meets all agency and legal requirements, and can be readily accessed.

803-A.6.2.2 See NFPA 1401, *Recommended Practice for Fire Service Training Reports and Records*.

Requisite Knowledge. Agency policy, record-keeping systems, professional standards addressing training records, legal requirements affecting record-keeping, and disclosure of information.

- 1) Agency policy – Authority having jurisdiction (AHJ)
- 2) Record-keeping systems
 - a) Electronic
 - b) Paper
- 3) Professional standards addressing training records – NFPA 1401

- 4) Legal requirements affecting record keeping, and disclosure of information
 - a) Federal
 - b) State
 - c) Local

Requisite Skills. Development of forms and report generation.

- 803-6.2.3 Develop recommendations for policies to support the training program, given agency policies and procedures and the training program goals, so that the training and agency goals are achieved.

Requisite Knowledge. Agency procedures and training program goals, and format for agency policies.

- 1) Agency procedures and training program goals
 - a) Training program goals
 - i) Required training (e.g., state certification)
 - ii) Maintenance training (e.g., continuing education)
 - iii) Implementing change training (e.g., updated safety policy)
 - iv) Professional development program (e.g., career advancement/enhancement)
 - b) Types of policies and procedures
 - i) Standard operating procedures (SOPs)
 - ii) Standard operating guidelines (SOGs)
 - iii) Administrative policies and procedures
 - c) Policy and procedure development process
 - i) Identifying a need
 - ii) Revision
 - iii) Adoption
 - iv) Implementation
 - v) Evaluation
- 2) Format for agency policies
 - a) Standardized appearance
 - b) Standardized data collection
 - c) AHJ

Requisite Skills. Technical writing.

- 803-6.2.4 Select instructional staff, given personnel qualifications, instructional requirements, and agency policies and procedures, so that staff selection meets agency policies and achievement of agency and instructional goals.

Requisite Knowledge. Agency policies regarding staff selection, instructional requirements, selection methods, the capabilities of instructional staff, and agency goals.

- 1) Agency policies regarding staff selection – AHJ
- 2) Instructional requirements
 - a) Certifications
 - b) Experience
 - c) Education
 - d) Qualifications
 - e) Communication skills
 - f) Credibility
- 3) Selection methods
 - a) Application packet
 - i) Cover letter
 - ii) Resume
 - iii) Application
 - iv) Supporting documents
 - b) Interview
 - c) Evaluation
 - i) Knowledge-based
 - ii) Skill-based
- 4) The capabilities of instructional staff
 - a) Subject matter expertise
 - i) Knowledge levels
 - ii) Skill levels
 - b) Interpersonal dynamics
 - i) Supervisors
 - ii) Coworkers
 - iii) Subordinates
 - iv) Students
 - v) Public
- 5) Agency goals
 - a) Needs-based instructor selection

Requisite Skills. Evaluation techniques.

- 803-6.2.5 Construct a performance-based instructor evaluation plan, given agency policies and procedures and job requirements, so that instructors are evaluated at regular intervals, following agency policies.

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Requisite Knowledge. Evaluation methods, agency policies, staff schedules, and job requirements.

- 1) Evaluation methods
 - a) Observation
 - b) Student feedback
 - c) Analysis of performance measures (e.g., pass/fail rates, test scores)
 - d) Critiquing instructor performance
 - i) Positive comments
 - ii) Areas needing improvement
 - iii) Comments should refer to specific behaviors
 - iv) Schedule a follow up meeting
- 2) Agency policies – AHJ
- 3) Staff schedules
- 4) Job requirements - AHJ

Requisite Skills. Evaluation techniques.

803-6.2.6 Write equipment purchasing specifications, given curriculum information, training goals, and agency guidelines, so that the equipment is appropriate and supports the curriculum.

Requisite Knowledge. Equipment purchasing procedures, available department resources, and curriculum needs.

- 1) Curriculum needs
 - a) Identification
 - b) Specifications
- 2) Available department resources
 - a) Budget
 - b) Equipment
- 3) Equipment purchasing procedures
 - a) Market research
 - b) Resource locations
 - c) Specification development
 - d) Competitive pricing
 - e) Other agency procedures

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Requisite Skills. Evaluation methods to select the equipment that is most effective and preparations of procurement forms.

- 803-6.2.7 Present evaluation findings, conclusions, and recommendations to agency administrator, given data summaries and target audience, so that recommendations are unbiased, supported, and reflect agency goals, policies, and procedures.

Requisite Knowledge. Statistical evaluation procedures and agency goals.

- 1) Statistical evaluation procedures
 - a) Agency needs analysis
 - b) Data analysis
 - c) Elimination of bias
 - d) Control of variables
 - e) Qualitative data
 - f) Quantitative data
- 2) Agency goals

Requisite Skills. Presentation skills and report preparation following agency guidelines.

803-6.3 **Instructional Development**

- 803-6.3.1 **Definition of Duty.** Plans, develops, and implements comprehensive programs and curricula.

- 803-6.3.2 Conduct an agency needs analysis, given agency goals, so that instructional needs are identified and solutions are recommended.

Requisite Knowledge. Needs analysis, task analysis, development of JPRs, lesson planning, instructional methods for classroom, training ground, and distance learning, characteristics of adult learners, instructional media, curriculum development, and development of evaluation instruments.

- 1) Needs analysis
 - a) Organizational
 - b) Personnel
 - c) ADDIE model
 - i) Analyze

- ii) Design
 - iii) Develop
 - iv) Implement
 - v) Evaluate
- 2) Task analysis
- a) Formal methods
 - i) Carefully designed and executed surveys
 - ii) Opinion polls
 - iii) Checklists
 - iv) Observations
 - v) Psychological profiles
 - vi) Research analyses
 - vii) tests
 - b) Informal methods
 - i) Conversations
 - ii) Casual observations of activities and habits
 - iii) Other unobtrusive measures
- 3) Development of JPRs
- a) Task to be performed
 - b) Tools, equipment, or materials that should be provided to successfully complete the task
 - c) Evaluation parameters and/or performance outcomes
 - d) Requisite knowledge
 - e) Requisite skills
- 4) Lesson planning
- a) Considerations from the training curriculum and program management perspective
 - b) Impact of lesson planning on curriculum development
 - i) Fiscal impact
 - ii) Performance impact
- 5) Instructional methods for classroom, training ground, and distance learning
- a) Considerations from the training curriculum and program management perspective
 - b) Impact of various instructional methods on curriculum development
 - i) Fiscal impact
 - ii) Performance impact
- 6) Characteristics of adult learners

- a) Considerations from the training curriculum and program management perspective
 - b) Impact of adult learner characteristics on curriculum development
 - i) Fiscal impact
 - ii) Performance impact
- 7) Instructional media
- a) Impact of instructional media on curriculum development
 - i) Fiscal impact
 - ii) Performance impact
- 8) Curriculum development
- a) Converting JPRs into instructional objectives to clarify performance expectations
 - i) Designate or develop reference material
 - ii) Knowledge objectives
 - iii) Skill objectives
 - (1) Skills checklist
- 9) Development of evaluation instruments
- a) Considerations from the training curriculum and program management perspective
 - b) Impact of evaluation instruments on curriculum development
 - i) Fiscal impact
 - ii) Performance impact

Requisite Skills. Conducting research, committee meetings, and needs and task analysis; organizing information into functional groupings; and interpreting data.

- 803-6.3.3 Design programs or curricula, given needs analysis and agency goals, so that the agency goals are supported, the knowledge and skills are job-related, the design is performance-based, adult learning principles are utilized, and the program meets time and budget constraints.

Requisite Knowledge. Instructional design, adult learning principles, principles of performance-based education, research, and fire service terminology.

- 1) Instructional design
 - a) Systematic approach to the development of a program to meet instructional needs and goals
- 2) Adult learning principles

- a) Characteristics of adult learners (Malcolm Knowles)
 - i) Autonomous and self-directed
 - ii) Personal experience and knowledge
 - iii) Goal oriented
 - iv) Relevancy oriented
 - v) Practical
 - vi) Need for respect
 - b) Application of adult learning principles
- 3) Principles of performance-based education
- a) Measures achievement of objectives by performing actions
 - b) Components of performance-based education
 - i) Curriculum
 - ii) Instructional material
 - iii) Student assessment
 - iv) Instructional practice
 - v) Student/system accountability
- 4) Research
- a) Choose topic
 - b) Organize topic into specific items
 - c) Identify research sources
 - d) Collect and review information
 - e) Process or prepare information to support instruction needs
 - f) Refresh information as needed
- 5) Fire service terminology
- a) Utilize common fire service terminology

Requisite Skills. Technical writing and selecting course reference materials.

803-6.3.4 Modify an existing curriculum, given the curriculum, audience characteristics, learning objectives, instructional resources, and agency training requirements, so that the curriculum meets the requirements of the agency, and the learning objectives are achieved.

Requisite Knowledge. Instructional design, adult learning principles, principles of performance-based education, research, and fire service terminology.

- 1) Instructional design (modification from the training curriculum and program management perspective)

- a) Systematic approach to the development of a program to meet instructional needs and goals
- 2) Adult learning principles
 - a) Characteristics of adult learners (Malcolm Knowles)
 - i) Autonomous and self-directed
 - ii) Personal experience and knowledge
 - iii) Goal oriented
 - iv) Relevancy oriented
 - v) Practical
 - vi) Need for respect
 - b) Application of adult learning principles
- 3) Principles of performance-based education
 - a) Measures achievement of objectives by performing actions
 - b) Components of performance-based education
 - i) Curriculum
 - ii) Instructional material
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- 4) Research
 - a) Choose topic
 - b) Organize topic into specific items
 - c) Identify research sources
 - d) Collect and review information
 - e) Process or prepare information to support instruction needs
 - f) Refresh information as needed
- 5) Fire service terminology
 - a) Utilize common fire service terminology

Requisite Skills. Technical writing and selecting course reference materials.

- 803-6.3.5 Write program and course goals, given JPRs and needs analysis information, so that the goals are clear, concise, measurable, and correlate to agency goals.

Requisite Knowledge. Components and characteristics of goals, and correlation of JPRs to program and course goals.

- 1) Components and characteristics of goals

- a) Goal theory
 - i) Specific better than vague
 - ii) Must be committed to goal
 - iii) Must be challenging but attainable
 - b) Clear
 - c) Concise
 - d) Measurable
 - e) Correlated to agency goals
 - f) Describes the desired outcome of a given course
- 2) Correlation of JPRs to program and course goals
 - a) Review needs analysis information
 - b) Identify program and course needs
 - c) Develop course goals to meet identified needs using the JPRs

Requisite Skills. Writing goal statements.

- 803-6.3.6 Write course objectives, given JPRs, so that objectives are clear, concise, measurable, and reflect specific tasks.

Requisite Knowledge. Components of objectives and correlation between JPRs and objectives.

- 1) Components of objectives
 - a) **A**udience (may be implied)
 - b) **B**ehavior statement
 - c) **C**onditions description
 - d) **D**egree (standards criteria)
- 2) Correlation between JPRs and objectives
 - a) Develop course objectives to meet course goals using the JPRs

Requisite Skills. Writing course objectives and correlating them to JPRs.

- 803-6.3.7 Construct a course content outline, given course objectives, reference sources, functional groupings and the agency structure, so that the content supports the agency structure and reflects current acceptable practices.

Requisite Knowledge. Correlation between course goals, course outline, objectives, JPRs, instructor lesson plans, and instructional methods.

- 1) Correlation between course goals, course outline, objectives, JPRs, instructor lesson plans, and instructional methods

- a) Develop course outline to meet course goals and objectives using JPRs
- b) Develop course outline so that lesson plans may be created and instructional delivery methods identified

Requisite Skills. None required.

803-6.4 **Instructional Delivery**

No JPRs at the Instructor III Level.

803-6.5 **Evaluation and Testing**

803-6.5.1 **Definition of Duty.** Develops an evaluation plan; collects, analyses, and reports data; and utilizes data for program validation and student feedback.

803-6.5.2 Develop a system for the acquisition, storage, and dissemination of evaluation results, given agency goals and policies, so that the goals are supported and so that those affected by the information receive feedback consistent with agency policies and federal, state, and local laws.

Requisite Knowledge. Record-keeping systems, agency goals, data acquisition techniques, applicable laws, and methods of providing feedback.

- 1) Record-keeping systems
 - a) Electronic
 - b) Paper-based (hard copy)
- 2) Agency goals – AHJ
- 3) Data acquisition techniques
 - a) Electronic
 - b) Paper-based (hard copy)
- 4) Applicable laws
 - a) Federal
 - b) State
 - c) Local
- 5) Methods of providing feedback
 - a) Electronic paper-based (hard copy)
 - b) Verbal

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Requisite Skills. The evaluation, development, and use of information systems.

- 803-6.5.3 Develop course evaluation plan, given course objectives and agency policies, so that objectives are measured and agency policies are followed.

Requisite Knowledge. Evaluation techniques, agency constraints, and resources.

- 1) Evaluation techniques
 - a) General areas of course evaluation
 - i) Reaction
 - ii) Knowledge
 - iii) Skills
 - iv) Attitudes
 - v) Transfer of learning
 - vi) results
 - b) Evaluation methods
 - i) Formative evaluation
 - ii) Field testing (Pilot program)
 - iii) Observation
 - (1) Learner responses
 - (2) Test results
 - c) Summative evaluation
 - i) End of course feedback
- 2) Agency constraints – AHJ
- 3) Resources
 - a) Human resources
 - b) Equipment

Requisite Skills. Decision making.

- 803-6.5.4 Create a program evaluation plan, given agency policies and procedures, so that instructors, course components, and facilities are evaluated and student input is obtained for course improvement.

Requisite Knowledge. Evaluation methods and agency goals.

- 1) Evaluation methods
 - a) General areas of program evaluation

- i) Reaction
- ii) Knowledge
- iii) Skills
- iv) Attitudes
- v) Transfer of learning
- vi) Results
- b) Evaluation techniques
 - i) Formative evaluation
 - ii) Field testing (Pilot program)
 - iii) Observation
 - (1) Learner responses
 - (2) Test results
- c) Summative evaluation
 - i) End of course feedback
 - (1) Student course evaluation
 - (2) Instructor evaluation
 - (3) Course component evaluation
 - (4) Facilities evaluation

2) Agency goals - AHJ

Requisite Skills. Construction of evaluation instruments.

803-6.5.5 Analyze student evaluation instruments, given test data, objectives, and agency policies, so that validity is determined and necessary changes are made.

Requisite Knowledge. Test validity, reliability, and item analysis.

- 1) Test validity
 - a) A valid test requires the learner to perform the same behavior under the same conditions specified in the instructional objective
 - b) Match test item to the objective
 - c) Test only skills that relate to the objective
 - d) Test at proper learning level
 - e) No tricks
 - f) Subjects weighted and distributed properly
 - g) Accurate predictor of field performance
- 2) Reliability
 - a) A reliable test provides a consistent measure of a student's ability to demonstrate achievement of an objective
 - b) Contains no clues
 - c) Distractors are realistic

- d) Order of answers is random
 - e) Is written clearly
 - f) Uses negatives carefully
- 3) Item analysis
- a) Determine percentage of students who missed the question
 - b) Determine why question was missed
 - c) Revise question or instruction as necessary

Requisite Skills. Item analysis techniques.