

CERTIFIED FIRE INVESTIGATOR BOARD
Course Equivalency Evaluation for NFPA 1033

North Carolina Fire and Rescue Commission

Certified Fire Investigator Board

Course Equivalency Evaluation Document

NOTICE

This material is to be used to correlate equivalency of outside programs to the North Carolina Certification Board Fire Investigator Technician Certification. All areas identified within the correlation sheet must be completed in its entirety in order to be considered by the Certified Fire Investigator Board for course equivalency to the North Carolina Fire and Rescue Commission Fire Investigator Technician.

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

The directions for completing the shaded course equivalency evaluations sheets are as follows:

The non-shaded areas in these correlation sheets designate the suggested minimum testing (both written and practical skills) requirements that an entity seeking equivalency must designate with either a written test question or practical skill test as appropriate. Also, the entity requesting equivalency must show the material is covered in the lesson plans and student manual or materials.

Requisite Skill-

Those JPR's that are listed under the heading Requisite Skill require a practical skill that is demonstrated during the course and tested in a non-simulated fashion. The areas under the heading Practical Skill Test # column that are not shade MUST have a practical skills test. A practical exam must be completed for consideration of an equivalent program.

Requisite Knowledge-

Those JPR's that are listed under the heading Requisite Knowledge require a written test question to be available that can be used to develop a final course exam. The areas under the heading Written Test Question # column that are not shade MUST have a written test question. A final written exam must be completed for consideration of an equivalent program.

Lesson Plan Page-

Under the column marked Lesson Plan Page the Lesson Plan # and page should be noted in the column that corresponds with the JPR listed to the left. 100% of the JPR's noted on the equivalency sheet must be covered by the program seeking equivalency.

Student Manual/Materials-

Under the column marked Student Manual/Materials, the page(s) should be noted in the column that corresponds with the JPR listed to the left where the material is covered in the text or other course material(s). 100% of the JPR's noted on the equivalency sheet must be covered by the manual/material(s) the program seeking equivalency utilizes for the course.

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

NFPA OBJECTIVE	WRITTEN TEST QUESTION #	PRACTICAL SKILL SHEET #	LESSON PLAN PAGE #	COURSE MANUAL/MATERIALS
4.1 General				
4.1.1				
The fire investigator shall meet the job performance requirements defined in Sections 4.2 through 4.7.				
4.1.2				
The fire investigator shall employ all elements of the scientific method as the operating analytical process throughout the investigation and for the drawing of conclusions.				
4.1.3				
Because fire investigators are required to perform activities in adverse conditions, site safety assessments shall be completed on all scenes and regional and national safety standards shall be followed and included in organizational policies and procedures.				
4.1.4				
The fire investigator shall maintain necessary liaison with other interested professionals and entities.				
4.1.5				
The fire investigator shall adhere to all applicable legal and regulatory requirements.				
4.1.6				
The fire investigator shall understand the organization and operation of the investigative team within an incident management system.				
4.2 Scene Examination				
Duties shall include inspecting and evaluating the fire scene, or evidence of the scene, and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.				
4.2.1				
Secure the fire ground, given marking devices, sufficient personnel, and special tools and equipment, so that unauthorized persons can recognize the perimeters of the investigative scene and are kept from restricted areas and all evidence or potential evidence is protected from damage or destruction.				
A. Requisite Knowledge				
Fire ground hazards				
Types of evidence				
The importance of fire scene security				
Evidence preservation				
Issues relating to spoliation				
B. Requisite Skills				
Use of marking devices				
4.2.2				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

NFPA OBJECTIVE	WRITTEN TEST QUESTION #	PRACTICAL SKILL SHEET #	LESSON PLAN PAGE #	COURSE MANUAL/MATERIALS
Conduct an exterior survey, given standard equipment and tools, so that evidence is identified and preserved, fire damage is interpreted, hazards are identified to avoid injuries, accessibility to the property is determined, and all potential means of ingress and egress are discovered.				
A. Requisite Knowledge				
The types of building construction				
The effects of fire upon construction materials				
Types of evidence commonly found in the perimeter				
Evidence preservation methods				
The effects of fire suppression				
Fire behavior and spread				
Fire patterns				
A basic awareness of the dangers of hazardous materials				
B. Requisite Skills				
Assess fire ground and structural condition				
Observe the damage from and effects of the fire				
Interpret burn patterns				
4.2.3				
Conduct an interior survey, given standard equipment and tools, so that areas of potential evidentiary value requiring further examination are identified and preserved, the evidentiary value of contents is determined, and hazards are identified in order to avoid injuries.				
A. Requisite Knowledge				
The types of building construction and interior finish and the effects of fire on those materials				
The effects of fire suppression				
Fire behavior and spread				
Evidence preservation methods				
Fire patterns				
Effects of building contents on fire growth				
The relationship of building contents to the overall investigation				
Weather conditions at the time of the fire				
Fuel moisture				
B. Requisite Skills				
Assess structural conditions				
Observe the damage and effects of the fire				
Discover the impact of fire suppression efforts on fire flow and heat propagation				
Evaluate protected areas to determine the presence and/or absence of contents				
4.2.4				
Interpret fire patterns, given standard equipment and tools and some structural or content remains, so that each individual pattern is evaluated with respect to the burning characteristics of the material involved and in				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

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context and relationship with all patterns observed and the mechanisms of heat transfer that led to the formation of the pattern.				
A. Requisite Knowledge				
Fire dynamics, fire development, and the interrelationship of heat release rate, form, and ignitability of materials				
B. Requisite Skills				
Interpret the effects of burning characteristics on different types of materials				
4.2.5				
Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.				
A. Requisite Knowledge				
Fire behavior and spread based on fire chemistry, fire dynamics, and physics				
Fire suppression effects				
Building construction				
B. Requisite Skills				
Interpret variations of burn patterns on different materials with consideration given to heat release rate, form, and ignitability				
Distinguish impact of different types of fuel loads				
Evaluate fuel trails				
Analyze and synthesize information				
4.2.6				
Examine and remove fire debris, given standard equipment and tools, so that all debris is checked for fire cause evidence, potential ignition source (s) is identified, and evidence is preserved without investigator-inflicted damage or contamination.				
A. Requisite Knowledge				
Basic understanding of ignition processes, characteristics of ignition sources, and ease of ignition of fuels				
Debris-layering techniques				
Use of tools and equipment during the debris search				
Types of fire cause evidence commonly found in various degrees of damage				
Evidence-gathering methods and documentation				
B. Requisite Skills				
Employ search techniques that further the discovery of fire cause evidence and ignition sources				
Use search techniques that incorporate documentation				
Collect and preserve evidence				
4.2.7				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

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Reconstruct the area of origin, given standard and, if needed, special equipment and tools as well as sufficient personnel, so that all protected areas and fire patterns are identified and correlated to contents or structural remains, items potentially critical to cause determination and photo documentation are returned to their prefire location, and the area (s) or point (s) of origin is discovered.				
A. Requisite Knowledge				
The effects of fire on different types of material				
The importance and uses of reconstruction				
B. Requisite Skills				
Examine all materials to determine the effects of fire				
Identify and distinguish among different types of fire-damaged contents				
Return materials to their original position using protected areas and fire patterns				
4.2.8				
Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system's impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system's potential as a fire cause is recognized.				
A. Requisite Knowledge				
Different types of detection, suppression, HVAC, utility, and building compartmentation such as fire walls and fire doors				
Types of expert resources for building systems				
The impact of fire on various systems				
Common methods used to defeat a system's functional capability				
Types of failures				
B. Requisite Skills				
Determine the system's operation and its effect on the fire				
Identify alterations to, and failure indicators of, building systems				
Evaluate the impact of suppression efforts on building systems				
4.2.9				
Discriminate the effects of explosions from other types of damage, given standard equipment and tools, so that an explosion is identified and its evidence is preserved.				
A. Requisite Knowledge				
Different types of explosions and their causes				
Characteristics of an explosion				
The difference between low- and high-order explosions				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

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B. Requisite Skills				
Identify explosive effects on glass, walls, foundations, and other building materials				
Distinguish between low-and high-order explosion effects				
Analyze damage to document the blast zone and origin				
4.3 Documenting the Scene				
Duties shall include diagramming the scene, photographing, and taking field notes to be used to compile a final report.				
4.3.1				
Diagram the scene, given standard tools and equipment, so that the scene is accurately represented and evidence, pertinent contents, significant patterns, and area (s) or point (s) of origin are identified.				
A. Requisite Knowledge				
Commonly used symbols and legends that clarify the diagram				
Types of evidence and patterns that need to be documented				
Formats for diagramming the scene				
B. Requisite Skills				
Ability to sketch the scene				
Basic drafting skills				
Evidence recognition and observational skills				
4.3.2				
Photographically document the scene, given standard tools and equipment, so that the scene is accurately depicted and the photographs support scene findings.				
A. Requisite Knowledge				
Working knowledge of high-resolution camera and flash				
The types of film, media and flash available				
The strengths and limitations of each				
B. Requisite Skills				
Ability to use a high-resolution camera, flash, and accessories				
4.3.3				
Construct investigative notes, given a fire scene, available documents (e.g., prefire plans and inspection reports), and interview information, so that the notes are accurate, provide further documentation of the scene, and represent complete documentation of the scene findings.				
A. Requisite Knowledge				
Relationship between notes, diagrams, and photos				
How to reduce scene information into concise notes				
The use of notes during report writing and legal proceedings				
B. Requisite Skills				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

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Data-reduction skills				
Note-taking skills				
Observational and correlating skills				
4.4 Evidence Collection/Preservation				
Duties shall include using proper physical and legal procedures to identify, document, collect, and preserve evidence required within the investigation.				
4.4.1				
Utilize proper procedures for managing victims and fatalities, given a protocol and appropriate personnel, so that all evidence is discovered and preserved and the protocol procedures are followed.				
A. Requisite Knowledge				
Types of evidence associated with fire victims and fatalities				
Evidence preservation methods				
B. Requisite Skills				
Observational skills				
The ability to apply protocols to given situations				
4.4.2				
Locate, document, collect, label, package, and store evidence, given standard or special tools and equipment and evidence collection materials, so that it is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations, ensuring cross-contamination and investigator-inflicted damage to evidentiary items is avoided and the chain of custody is established.				
A. Requisite Knowledge				
Types of evidence				
Authority requirements				
Impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence)				
Types, capabilities, and limitations of standard and special tools used to locate evidence				
Types of laboratory tests available				
Packaging techniques and materials				
Impact of evidence collection on the investigation				
B. Requisite Skills				
Ability to recognize different types of evidence and determine whether evidence is critical to the investigation				
4.4.3				
Select evidence for analysis given all information from the investigation, so that items for analysis support specific investigation needs				
A. Requisite Knowledge				
Purposes for submitting items for analysis				
Types of analytical services available				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

NFPA OBJECTIVE	WRITTEN TEST QUESTION #	PRACTICAL SKILL SHEET #	LESSON PLAN PAGE #	COURSE MANUAL/ MATERIALS
Capabilities and limitations of the services performing the analysis				
B. Requisite Skills				
Evaluate the fire incident to determine forensic, engineering, or laboratory needs				
4.4.4				
Maintain a chain of custody, given standard investigative tools, marking tools, and evidence tags or logs, so that written documentation exists for each piece of evidence and evidence is secured.				
A. Requisite Knowledge				
Rules of custody and transfer procedures				
Types of evidence (e.g., physical evidence obtained at the scene, photos, and documents)				
Methods of recording the chain of custody				
B. Requisite Skills				
Ability to execute the chain of custody procedures				
Accurately complete necessary documents				
4.4.5				
Dispose of evidence, given jurisdictional or agency regulations and file information, so that the disposal is timely, safely conducted, and in compliance with jurisdictional or agency requirements.				
A. Requisite Knowledge				
Disposal services available				
Common disposal procedures and problems				
B. Requisite Skills				
Documentation skills				
4.5 Interview				
Duties shall include obtaining information regarding the overall fire investigation from others through verbal communication.				
4.5.1				
Develop an interview plan, given no special tools or equipment, so that the plan reflects a strategy to further determine the fire cause and affix responsibility and includes a relevant questioning strategy for each individual to be interviewed that promotes the efficient use of the investigator's time.				
A. Requisite Knowledge				
Persons who can provide information that furthers the fire cause determination or the affixing of responsibility				
Types of questions that are pertinent and efficient to ask of different information sources (first responders, neighbors, witnesses, suspects, and so forth)				
Pros and cons of interviews versus document gathering				
B. Requisite Skills				
Planning skills				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

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Development of focused questions for specific individuals				
Evaluation of existing file data to help develop questions and fill investigative gaps				
4.5.2				
Conduct interviews, given incident information, so that pertinent information is obtained, follow-up questions are asked, responses to all questions are elicited, and the response to each question is documented accurately.				
A. Requisite Knowledge				
Types of interviews				
Personal information needed for proper documentation or follow-up				
Documenting methods and tools				
Types of nonverbal communications and their meaning				
B. Requisite Skills				
Adjust interviewing strategies based on deductive reasoning				
Interpret verbal and nonverbal communications				
Apply legal requirements applicable				
Exhibit strong listening skills				
4.5.3				
Evaluate interview information, given interview transcripts or notes and incident data, so that all interview data is individually analyzed and correlated with all other interviews, corroborative and conflictive information is documented, and new leads are developed.				
A. Requisite Knowledge				
Types of interviews				
Report evaluation methods				
Data correlation methods				
B. Requisite Skills				
Data correlation skills and the ability to evaluate source information (e.g., first responders and other witnesses).				
4.6 Post-Incident Investigation				
Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.				
4.6.1				
Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.				
A. Requisite Knowledge				
Types of reports needed that facilitate determining responsibility for the fire (e.g., police reports, fire reports, insurance policies, financial records, deeds,				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

NFPA OBJECTIVE	WRITTEN TEST QUESTION #	PRACTICAL SKILL SHEET #	LESSON PLAN PAGE #	COURSE MANUAL/MATERIALS
private investigator reports, outside photos, and videos) and location of these reports				
B. Requisite Skills				
Identify the reports and documents necessary for the investigation				
Implement the chain of custody				
Organizational skills				
4.6.2				
Evaluate the investigative file, given all available file information, so that the areas for further investigation are identified, the relationship between gathered documents and information is interpreted, and corroborative evidence and information discrepancies are discovered.				
A. Requisite Knowledge				
File assessment and/or evaluation methods including				
Accurate documentation practices				
Requisite investigative elements				
B. Requisite Skills				
Information assessment				
Correlation				
Organizational skills				
4.6.3				
Coordinate expert resources, given the investigative file, reports, and documents, so that the expert's competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.				
A. Requisite Knowledge				
How to assess one's own expertise				
Qualification to be called for expert testimony				
Types of expert resources (e.g., forensic, CPA, polygraph, financial, human behavior disorders, and engineering)				
Methods to identify expert resources				
B. Requisite Skills				
Apply expert resources to further the investigation by networking with other investigators to identify experts				
Questioning experts relative to their qualifications				
Developing a utilization plan for use of expert resources				
4.6.4				
Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.				
A. Requisite Knowledge				
Types of motives common to incendiary fires				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

NFPA OBJECTIVE	WRITTEN TEST QUESTION #	PRACTICAL SKILL SHEET #	LESSON PLAN PAGE #	COURSE MANUAL/MATERIALS
Methods used to discover opportunity				
Human behavioral patterns relative to fire-setting				
B. Requisite Skills				
Financial analysis				
Records gathering and analysis				
Interviewing				
Interpreting fire scene information and evidence for relationship to motive and/or opportunity				
4.6.5				
Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.				
A. Requisite Knowledge				
Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).				
B. Requisite Skills				
Analytical and assimilation skills				
4.7 Presentations				
Duties shall include the presentation of findings to those individuals not involved in the actual investigations.				
4.7.1				
Prepare a written report, given investigative findings, documentation, and a specific audience, so that the report accurately reflects the investigative findings, is concise, expresses the investigator's opinion, contains facts and data that the investigator relies on in rendering an opinion, contains the reasoning of the investigator by which each opinion was reached, and meets the needs or requirements of the intended audience (s).				
A. Requisite Knowledge				
Elements of writing				
Typical components of a written report				
Types of audiences and their respective needs or requirements				
B. Requisite Skills				
Writing skills				
Ability to analyze information				
Determine the reader's needs or requirements				
4.7.2				
Express investigative findings verbally, given investigative findings, notes, a time allotment, and a specific audience, so that the information is accurate, the presentation is completed within the allotted time,				

CERTIFIED FIRE INVESTIGATOR BOARD

Course Equivalency Evaluation for NFPA 1033

NFPA OBJECTIVE	WRITTEN TEST QUESTION #	PRACTICAL SKILL SHEET #	LESSON PLAN PAGE #	COURSE MANUAL/MATERIALS
and the presentation includes only need-to-know information for the intended audience.				
A. Requisite Knowledge				
Types of investigative findings				
The informational needs of various types of audiences				
The impact of releasing information				
B. Requisite Skills				
Communication skills				
Ability to determine audience needs				
Correlate findings				
4.7.3				
Testify during legal proceedings, given investigative findings, contents of reports, and consultation with legal counsel, so that all pertinent investigative information and evidence is presented clearly and accurately and the investigator's demeanor and attire are appropriate to the proceedings.				
A. Requisite Knowledge				
Types of investigative findings				
Types of legal proceedings				
Professional demeanor requirements				
Understanding of due process and legal proceedings				
B. Requisite Skills				
Communication and listening skills				
Ability to differentiate facts from opinion				
Determine accepted procedures, practices, and etiquette during legal proceedings				