



National Fire Academy

**N0491 – National Fire Incident Reporting System: Program Management
Version: 6th Edition, 2nd Printing, January 2023**

Quarter:

ACE Credit: In the upper-division baccalaureate/associate degree category, 3 semester hours in data analytics, information management or public safety administration.

IACET Continuing Education Units: 4.5

Length of Course: 6 Days (38 hr., 20 min. contact hours, Sunday – Friday)

Prerequisite: Yes

Curriculum: Planning and Information Management

Training Specialist: Christine Spangler

Instructor:

Instructor email/phone:

Classroom: J-

Meeting Time: 8 AM – 5 PM

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Course Description (Catalog)

N0491 – “National Fire Incident Reporting System: Program Management.” This 6-day course is designed to enhance the knowledge and skills of individuals responsible for the management of the National Fire Incident Reporting System (NFIRS) and/or multiple fire/emergency medical services (EMS) databases in their organization, and/or for those responsible for the training of field-level data collection and reporting staffs. This course provides information about the system’s capabilities, data collection and analysis, and available reporting features.

Focus is on the higher-level knowledge, skills and abilities required to collect, compile and analyze NFIRS data.

Attendees will use data to develop decision packages used as the basis for standards of cover, develop and evaluate department programs, and identify and compare local trends in emergency response, delivery and community risk reduction. The National Fire Academy's (NFA's) computer lab is used extensively for this course. **Class activities require knowledge of NFIRS coding and familiarity with Microsoft Excel sufficient to navigate the toolbars.**

At the conclusion of this course, participants will be able to:

- Generate reports describing their community's fire problem and create reports that are of interest to their jurisdiction.
- Ensure the quality of the NFIRS process for their jurisdiction.
- Construct maps which identify incidents and resources.
- Explain the impact of external factors on their organization.
- Utilize incident data to analyze fire service problems.
- Utilize NFIRS data to describe fire service problems and to support organizational goals and programs.
- Develop action plans based on the community's fire problem.

Applicants are strongly encouraged to take the self-study course Q0696, "Introduction to Application of Data for Fire and Emergency Services" available through NFA Online before attending this course.

Student Qualifications (Primary and Secondary Audience)

This course is for a broad audience that may include a range of titles, from administrative fire officers to firefighters, information technology (IT) personnel, systems operations and management, systems administration, systems analysts, and support staff. The class is designed for individuals who analyze jurisdictional data and provide or use comprehensive reports. This includes chief officers who need data for planning purposes and who also are not familiar with data tools and data entry.

Course Scope (Goal)

The course goal is to enable students to use the National Fire Incident Reporting System (NFIRS) with evolving technologies to assist the fire service and information partners in making better data-driven decisions that address fire-and life-safety issues.

At the end of this training, students will be able to:

- Describe how NFIRS can have an impact on fire- and life-safety decisions.

- Use NFIRS to complete an accurate incident report and populate an incident database for their jurisdiction.
- Apply an analysis process using NFIRS data to identify outcomes for a decision package.
- Evaluate their jurisdiction's current NFIRS program in order to improve the quality.
- Develop an Individual Action Plan.

Course Objectives (Course Learning Outcomes – TLOs)

After successfully completing this course, you will be able to accomplish the following:

- Explain how the National Fire Incident Reporting System (NFIRS) can have an impact on fire- and life-safety decisions.
- Determine best practices for quality assurance (QA) in the National Fire Incident Reporting System (NFIRS) incident reporting.
- Use the National Fire Incident Reporting System (NFIRS) to complete an accurate Incident Report and populate an incident database for their jurisdiction.
- Analyze National Fire Incident Reporting System (NFIRS) data to identify outcomes for a decision package.
- Develop an action plan that addresses a need to improve the processes associated with National Fire Incident Reporting System (NFIRS) or to use NFIRS data to improve a process within the department.
- Generate analysis reports for decision-making given National Fire Incident Reporting System (NFIRS) data.

Course Delivery Method

The National Fire Academy (NFA) offers specialized training courses and advanced management programs of national impact in an academic classroom environment [on campus at the National Emergency Training Center \(NETC\) in Emmitsburg, Maryland](#) and through their State, local, tribal, and US territories training partners. All course materials are designed for interactive classroom environments, in either paper notebook or electronic formats.

Course Schedule

The purpose of the course schedule is to give you, at a glance, the required preparation, activities, and evaluation components of your course.

DAY 1	DAY 2
Introduction, Welcome and Administrative	Quiz 2 on Unit 1 Unit 2: Incident Reporting
<i>Break</i>	<i>Break</i>
Unit 1: National Fire Incident Reporting System Overview Activity 1.1: Introductions	Unit 2: Incident Reporting (cont'd) Activity 2.1: National Fire Incident Reporting System Benefits Activity 2.2: "Conquering the 'Unknowns'" — National Association of State Fire Marshals
<i>Break</i>	<i>Break</i>
Unit 1: National Fire Incident Reporting System Overview (cont'd) Quiz 1 on Pre-Course	Unit 2: Incident Reporting (cont'd)
<i>Lunch Break</i>	<i>Lunch Break</i>
Unit 1: National Fire Incident Reporting System Overview (cont'd) Activity 1.2: National Fire Incident Reporting System Management Functions	Unit 2: Incident Reporting (cont'd) Activity 2.3: Open Top Tank Explosion
<i>Break</i>	<i>Break</i>
Unit 1: National Fire Incident Reporting System Overview (cont'd) Lab Activity 1.3: National Fire Incident Reporting System Resources Lab Activity 1.4: Using the Summary Output Reports Tool Activity 1.5: Using the National Fire Incident Reporting System Data Warehouse	Unit 2: Incident Reporting (cont'd) Lab Activity 2.4: eNFIRS Account Management and Imports

Day 1 homework:
Study for quiz

Day 2 homework:
A. Icebreaker at pub
B. Study for quiz

Note: This schedule is subject to modification by the instructors and approved by the training specialist.

DAY 3	DAY 4
Quiz 3 on Unit 2 Unit 3: National Fire Incident Reporting System Modules	Quiz 4 on Unit 3 Unit 4: Data Analysis and the Decision-Making Process
<i>Break</i>	<i>Break</i>
Unit 3: National Fire Incident Reporting System Modules (cont'd) Activity 3.1: How Many Incidents, How Many Exposures, How Many Modules	Unit 4: Data Analysis and the Decision-Making Process (cont'd) Activity 4.1: Data and Decision-Making
<i>Break</i>	<i>Break</i>
Unit 3: National Fire Incident Reporting System Modules (cont'd)	Unit 4: Data Analysis and the Decision-Making Process (cont'd)
<i>Lunch Break</i>	<i>Lunch Break</i>
Unit 3: National Fire Incident Reporting System Modules (cont'd) Activity 3.2: Fire Scenario	Unit 4: Data Analysis and the Decision-Making Process (cont'd)
<i>Break</i>	<i>Break</i>
Unit 3: National Fire Incident Reporting System Modules (cont'd) Lab Activity 3.3: Managing Errors With Excel Lab Activity 3.4: Using the National Fire Incident Reporting System Data Warehouse Reports and PivotTables	Unit 4: Data Analysis and the Decision-Making Process (cont'd) Lab Activity 4.2: The PivotTable Analysis Process Lab Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques Lab Activity 4.4: Mapping Incidents and Resources

Day 3 homework:
A. Activity 4.1: Data and Decision-Making
B. Study for quiz

Day 4 homework:
Study for final exam

DAY 5	DAY 6
Quiz 5 on Unit 4	Unit 6: Course Project
<i>Break</i>	<i>Break</i>
Unit 4: Data Analysis and the Decision-Making Process (cont'd) Activity 4.5: Test Review	Lab Activity 6.1: Data Analysis Course Project
<i>Break</i>	<i>Break</i>
Final Exam	Lab Activity 6.1: Data Analysis Course Project (cont'd)
<i>Lunch Break</i>	<i>Lunch Break</i>
Unit 5: Action/Analysis Plan	Lab Activity 6.1: Data Analysis Course Project (cont'd)
<i>Break</i>	<i>Break</i>
Unit 5: Action/Analysis Plan Activity 5.1: Action/Analysis Plan	Course Wrap-Up Graduation

Course Resources (Instructional Materials)

In order to be fully prepared, obtain a copy of the required textbooks and other instructional materials prior to the first day of class.

Required Readings

The student must complete required readings during the course to be able to thoughtfully participate in discussions and activities.

- “Economic Impact of Successful Commercial Fire Interventions”
- “Conquering the “Unknowns”

Suggested Reading/Resources

Suggested readings and resources are not evaluated, but may enhance the student’s understanding, serve as additional sources for citation and promote discussion of course material.

None.

Required Resources (Course Textbook)

Student Manual.

Supplemental Resources (Supplemental Course Textbook)

None.

Evaluation Procedures (Grading Methodology)

Quizzes

- Quiz 1 on Pre-Course.
- Quiz 2 on Unit 1.
- Quiz 3 on Unit 2.
- Quiz 4 on Unit 3.
- Quiz 5 on Unit 4.

Final Exam

Graded Lab Activities

- Activity 1.4: Using the Summary Output Reports Tool.
- Activity 2.4: eNFIRS Account Management and Imports.
- Activity 3.3: Managing Errors With Excel.
- Activity 3.4: Using the National Fire Incident Reporting System Data Warehouse Reports and PivotTables.
- Activity 4.2: The PivotTable Analysis Process.

- Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques.
- Activity 4.4: Mapping Incidents and Resources.
- Activity 5.1: Action/Analysis Plan.

Participation in Course Project

Long-Term Evaluation

Sign up and complete the questionnaire. Students and supervisors both complete the questionnaire.

Summary Evaluation Plan and Scoring Sheet

The summary evaluation plan of the NFIRS: PM (R0491) course is as follows:

Assessment tool	Assignment	Point score	% of final grade	Weighted point score toward final grade
1	Quiz 1 on Pre-Course		5%	
2	Quiz 2 on Unit 1		5%	
3	Quiz 3 on Unit 2		5%	
4	Quiz 4 on Unit 3		5%	
5	Quiz 5 on Unit 4		5%	
6	Activity 1.4: Using the Summary Output Reports Tool		3%	
7	Activity 2.4: eNFIRS Account Management and Imports		6%	
9	Activity 3.3: Managing Errors With Excel		6%	
10	Activity 3.4: Using the National Fire Incident Reporting System Data Warehouse Reports and PivotTables		3%	
11	Activity 4.2: The PivotTable Analysis Process		3%	
12	Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques		3%	
13	Activity 4.4: Mapping Incidents and Resources		3%	
14	Activity 5.1: Action/Analysis Plan		9%	
15	Final Exam		39%	
		Final Course Grade	100%	___/100%

To successfully complete the course, a minimum of 70% must be achieved. (A letter grade of “C” is required.) Enter the student’s score in the Course Grade Record.

Numerical score	Letter grade
100-90	A
89-80	B
79-70	C
69 and below	F

EXAMINATION ADMINISTRATION PROCEDURES

Students will be given exams at the end of the class, and only the instructor will grade the exams. While the exams are being graded by the instructor, students will be asked to complete end-of-course evaluations.

Exams are to be completed individually and not as a group or a group activity, unless specifically directed within the instructor guide for the specific course. Students should use pencils to complete answer sheets if bubble sheets and a scoring key overlay are being used.

There should only be one answer for any given question marked by the student. A question with multiple answers is considered incorrect. Please mark number of incorrect answers on completed exam sheets, record score (percentage), and mark the appropriate letter grade.

Transfer the letter grades to the corresponding student name on the course roster.

If a student does not obtain a passing grade on the first attempt, the instructor will provide remediation¹ prior to a retest. Students who do not pass the first exam will be allowed to take one retest of a new exam before departing from the class. A second failure will result in a grade of “F” being recorded on the grade roster.

Once all exams have been graded, instructors should review the exam as a group.

In the event of unusual events (storm, fire response, family emergency) or early departure, the host agency or state representative may be asked to proctor the exam at a later date. The instructor is responsible to notify the Training Specialist as soon as practical of the situation and name of person responsible for the exams and testing process.

Required Reading Assignments

Student completion of reading assignments will be done via evaluation of their class participation and will not be a separately graded activity.

Suggested Readings

Suggested readings are not evaluated, but may enhance the student's understanding and promote discussion of course material.

Course Outline

Unit 1: National Fire Incident Reporting System Overview (Day 1)

Objectives

Terminal Objective

The students will be able to:

- 1.1 Explain how the National Fire Incident Reporting System (NFIRS) can have an impact on fire- and life-safety decisions.

Enabling Objectives

The students will be able to:

- 1.1 Describe the NFIRS and how NFIRS can be used at the national, state, local and tribal levels.
- 1.2 Describe the roles and responsibilities for managing the NFIRS program and how these are accomplished.
- 1.3 Employ resources that help manage NFIRS.
- 1.4 Create reports of interest to the jurisdiction.

Unit 2: Incident Reporting (Day 2)

Objectives

Terminal Objective

The students will be able to:

- 2.1 Determine best practices for quality assurance (QA) in the National Fire Incident Reporting System (NFIRS) incident reporting.

Enabling Objectives

The students will be able to:

- 2.1 Describe the benefits of NFIRS at the local, state, tribal and federal levels.
- 2.2 Describe the best practices for QA.
- 2.3 Analyze the results of the chronic problem of undetermined and missing data given a research report.
- 2.4 Differentiate between typical and special-case or consequential incidents.
- 2.5 Evaluate the completeness of the NFIRS report given an incident case study and a completed NFIRS-1 report form.
- 2.6 Manage NFIRS user accounts and import data using eNFIRS.

Unit 3: National Fire Incident Reporting System Modules (Day 3)

Objectives

Terminal Objective

The students will be able to:

- 3.1 Use the National Fire Incident Reporting System (NFIRS) to complete an accurate Incident Report and populate an incident database for their jurisdiction.

Enabling Objectives

The students will be able to:

- 3.1 Explain the rationale for complete reporting.
- 3.2 List how many incidents, exposures and modules must be completed given incident descriptions.
- 3.3 Outline what is needed to accurately document the incident, including critical elements, Incident Type, coding strategy and needed updates given a scenario.
- 3.4 Manage errors generated during a data transaction file import into eNFIRS using Excel.
- 3.5 Create and navigate within a PivotTable.

Unit 4: Data Analysis and the Decision-Making Process (Day 4)

Objectives

Terminal Objective

The students will be able to:

- 4.1 Analyze National Fire Incident Reporting System (NFIRS) data to identify outcomes for a decision package.

Enabling Objectives

The students will be able to:

- 4.1 Explain the impact of the social, political, economic and demographic environment on the fire service.
- 4.2 Explain the impact of local government and community expectations on the fire service.
- 4.3 Compare performance measurement models.
- 4.4 Explain the use of fire data analysis techniques as part of the decision-making process.
- 4.5 Construct a PivotTable view to analyze complex multidimensional fire service problems.
- 4.6 Explain techniques for transforming data into useful information using charts, graphs, maps, and descriptive and inferential statistics.
- 4.7 Construct a graph using proper guidelines to support the analysis of a problem or question.
- 4.8 Construct a map indicating incidents and resources.

Unit 5: Action/Analysis Plan (Day 5)

Objectives

Terminal Objective

The students will be able to:

- 5.1 Develop an action plan that addresses a need to improve the processes associated with National Fire Incident Reporting System (NFIRS) or to use NFIRS data to improve a process within the department.

Enabling Objectives

The students will be able to:

- 5.1 Develop an analysis plan to address a problem or question in the organization.
- 5.2 Develop a PivotTable using extracted NFIRS data to support the analysis plan.
- 5.3 Propose an action plan to be implemented within 90 days.

Unit 6: Course Project (Day 6)

Objectives

Terminal Objective

The students will be able to:

- 6.1 Generate analysis reports for decision-making given National Fire Incident Reporting System (NFIRS) data.

Enabling Objectives

The students will be able to:

- 6.1 Modify a database using special queries and tables.
- 6.2 Generate monthly incident counts.
- 6.3 Use Summary Template.xls.
- 6.4 Create charts and presentable data.
- 6.5 Create a PivotTable.
- 6.6 Generate maps and show specified data using Microsoft Excel 3D Map.

Policies

Class Attendance and Cancellation Policy

Attendance

- You are required to attend all sessions of the course. If you do not, you may not receive a certificate.

- If you need to depart the training facility early and miss any portion of the course, you must make the request in writing to the sponsoring agency (e.g., State training director, etc.). The State training director may waive the attendance requirement in order to accommodate you with extraordinary circumstances as long as you complete all course requirements.

Course Failure

You can reapply for the failed course or any other NFA course and go through the random selection process. You don't have to successfully complete the failed course before attending another NFA course.

Student Code of Conduct Policy

Students, instructors and staff are expected to treat each other with respect at all times. Inappropriate behavior will not be tolerated.

Writing Expectations

Student writing will conform to the generally accepted academic standards for college papers. Papers will reflect the original work of the student and give appropriate credit through citations for ideas belonging to other authors, publications or organizations. Student written work should be free of grammatical and syntax errors, free of profanity or obscene language or ideas, and reflect critical thinking related to the course subject matter.

Citation and Reference Style

Attention Please: Students will follow the APA, Sixth Edition as the sole citation and reference style used in written work submitted as part of coursework to NFA. Assignments completed in a narrative essay, composition format, abstract, and discussion posts must follow the citation style cited in the APA, Sixth Edition.

Late Assignments

All assignments must be turned in by the established deadline. Late submissions could result in a 10 percent decrease in grade.

Disclaimer Statement

Course content may vary from the outline to meet the needs of this particular group.

Grading

Please review the following rubrics that explain how grades will be awarded.

Students who do not complete the entire course will be awarded an Incomplete (I) grade. In accordance with National Fire Academy academic policies, an Incomplete (I) grade must be

removed by the end of the next semester following the course, or it automatically becomes a Failing (F) grade.

https://www.usfa.fema.gov/training/nfa/admissions/student_policies.html

Academic Honesty

Students are expected to exhibit exemplary ethical behavior and conduct as part of the NFA community and society as a whole. Acts of academic dishonesty including cheating, plagiarism, deliberate falsification, and other unethical behaviors will not be tolerated.

Students are expected to report academic misconduct when they witness a violation. All cases of academic misconduct shall be reported by the instructor to the State training director or host agency and to the NFA Training Specialist.

If a student is found to have engaged in misconduct and the allegations are upheld, the penalties may include, but are not limited to one or a combination of the following:

- expulsion,
- exclusion from future classes for a specified period; depending on the severity it could range from 1-10 years, and/or
- forfeiture of certificate for course(s) enrolled in at NETC.

Refer to NFA-specific Standard Operating Procedure 700.1 – *Academic Code of Conduct and Ethics* for more information.

Grading Rubrics

SCORING RUBRICS

Each student will be scored on each of the following graded activities according to the scoring rubric. Activities are weighted differently because of their level of difficulty and the amount of time that is required for students to accomplish the course objectives associated with the activities.

- Activity 1.4: Using the Summary Output Reports Tool.
- Activity 2.4: eNFIRS Account Management and Imports.
- Activity 3.3: Managing Errors With Excel.
- Activity 3.4: Using the National Fire Incident Reporting System Data Warehouse Reports and PivotTables.
- Activity 4.2: The PivotTable Analysis Process.
- Activity 4.3: Presenting Your Findings — Charting and Graphing Techniques.
- Activity 4.4: Mapping Incidents and Resources.
- Activity 5.1: Action/Analysis Plan.

ACTIVITY 1.4 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objective
1	1.4	Using the Summary Output Reports Tool	45 min.	Provide students instruction and hands-on experience working with the SORT reports tool to create reports of interest to the jurisdiction, and use their NFIRS user account to generate a variety of summary reports from their online NFIRS data.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

ACTIVITY 2.4 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objective
2	2.4	eNFIRS Account Management and Imports	140 min.	Use eNFIRS to manage NFIRS user accounts and import data.

Scoring Rubric

0	Student did not attempt this task.
2	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
4	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
6	Student completed this task and attained the desired results.

ACTIVITY 3.3 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objectives
3	3.3	Managing Errors with Excel	40 min.	Provide students with a process to view and manage errors generated during a data transaction file import into eNFIRS using Excel. Introduce the students to a basic PivotTable.

Scoring Rubric

0	Student did not attempt this task.
2	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
4	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
6	Student completed this task and attained the desired results.

ACTIVITY 3.4 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objectives
3	3.4	Using the National Fire Incident Reporting System Data Warehouse Reports and PivotTables	40 min.	Run Standard Reports in the NFIRS Data Warehouse (DW) on students' own NFIRS data. Gain the knowledge and skills necessary for students to schedule and view results with Standard Reports in the DW and then export data for use with PivotTables in Excel to view students' NFIRS data.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

ACTIVITY 4.2 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objective
4	4.2	The PivotTable Analysis Process	40 min.	Construct a PivotTable view to analyze complex multidimensional fire service problems.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

ACTIVITY 4.3 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objective
4	4.3	Presenting Your Findings — Charting and Graphing Techniques	60 min.	Construct a graph using proper guidelines to support the analysis of a problem or question.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

ACTIVITY 4.4 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objective
4	4.4	Mapping Incidents and Resources	60 min.	Use Microsoft Excel to conduct geospatial incident mapping and fire data analysis.

Scoring Rubric

0	Student did not attempt this task.
1	Student attempted this task but did not demonstrate the knowledge and skill to complete it.
2	Student demonstrated the knowledge and skill necessary to complete this task but was unable to finish.
3	Student completed this task and attained the desired results.

ACTIVITY 5.1 SCORING RUBRIC

Name: _____

Unit	Activity number	Activity title	Activity time	Objectives
5	5.1	Action/Analysis Plan	175 min.	Develop an analysis plan to address a problem or question in the student's organization, and develop a PivotTable using extracted National Fire Incident Reporting System (NFIRS) data to support the analysis plan.

Scoring Rubric

0	Student did not attempt this task.
2	Student attempted the analysis plan but did not demonstrate the knowledge and skill to complete it.
4	Student demonstrated the knowledge and skill necessary to complete the analysis plan but was unable to finish.
6	Student completed the analysis plan and attained the desired results.
8	Student completed the analysis plan and the PivotTable using extracted NFIRS data.
9	Student completed the analysis plan and the PivotTable using extracted NFIRS data, and the extracted data clearly supports the analysis plan.