# Fire Protection Technology
# Mississippi Curriculum Framework

**Program CIP: 43.0203– Fire Science/Fire-Fighting**
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The Office of Curriculum and Instruction (OCI) was founded in 2013 under the Division of Workforce, Career, and Technical Education at the Mississippi Community College Board (MCCB). The office is funded through a partnership with The Mississippi Department of Education (MDE), who serves as Mississippi's fiscal agent for state and federal Career and Technical Education (CTE) Funds. The OCI is tasked with developing statewide CTE curriculum, programming, and professional development designed to meet the local and statewide economic demand.


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# Contents

# Research Abstract

The curriculum framework in this document reflect changes in the workplace and a number of other factors that impact local vocational–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide vocational educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

The last validated and approved revision of this curriculum took place in 2012. In the fall of 2019, the Office of Curriculum and Instruction (OCI) met with local community colleges and different business and industry members. An industry questionnaire was used to gather feedback concerning the trends and needs, both current and future, of the field. Industry members stated the curriculum was strong, but we might want to re-evaluate the courses in the future to see if any updates need to occur. Program faculty and industry members were consulted regarding industry workforce needs and trends.

# Revision History

2012- Research and Curriculum Unit, Mississippi State University
2019- Office of Curriculum & Instruction, Mississippi Community College Board

# ADOPTION OF NATIONAL CERTIFICATION STANDARDS

The National Fire Protection Association (NFPA) is a self-funded nonprofit organization, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.

The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, partnerships, and outreach and advocacy. Their mission is to help save lives and reduce loss with information, knowledge and passion. They also seek to provide information and knowledge needed for jobs in today's changing environment.

More information related to these standards can be found at the following website https://www.nfpa.org/.

Permission was granted by the National Fire Protection Association to include the competencies and objectives in this curriculum.

**National Fire Protection Association**
1 Batterymarch Park
Quincy, MA 02169-7471
www.nfpa.org

# INDUSTRY JOB PROJECTION DATA

The field of fire science is growing steadily. This field provides not only opportunities in direct fire protection work but also room for multiple modality skill certifications. There is a -2.63% in occupational demand at the national level. Median annual income for fire fighters is $38,438.40 at the state and regional level. A summary of occupational data from National Strategic Planning and Analysis Research Center (nSPARC) is displayed below:

**Table 1: Education Level**

| Program Occupations | Education Level |
|---|---|
| Municipal Firefighters | Long-Term on-the-job training |
| Fire Inspectors | Work Experience in Related Field |
| Forest Fire Inspectors and Prevention Specialists | Work Experience in Related Field |

**Table 2: Occupational Overview**

| | Region | State | United States |
|---|---|---|---|
| 2016 Occupational Jobs | 382 | 382 | 36,540 |
| 2026 Occupational Jobs | 380 | 380 | 35,578 |
| Total Change | -2 | -2 | -962 |
| Total % Change | -0.52% | -0.52% | -2.63% |
| 2016 Median Hourly Earnings | $18.48 | $18.48 | $19.81 |
| 2016 Median Annual Earnings | $38,438.40 | $38,438.40 | $41,204.80 |
| Annual Openings | 0 | 0 | -96 |

**Table 3: Occupational Breakdown**

| Description | 2016 Jobs | 2026 Jobs | Annual Openings | 2016 Hourly Earnings | 2016 Annual Earnings 2,080 Work Hours |
|---|---|---|---|---|---|
| Engine and Other Machine Assemblers | 382 | 380 | 0 | $18.48 | $38,438.40 |
| Total | 382 | 380 | 0 | $18.48 | $38,438.40 |

**Table 4: Occupational Change**

| Description | Regional Change | Regional % Change | State % Change | National % Change |
|---|---|---|---|---|
| Engine and Other Machine Assemblers | -2 | -0.52% | -0.52% | -2.63% |

# ARTICULATION

No articulated credit will be offered upon implementation of this curriculum. Local agreements and dual credit partnerships are encouraged.

# TECHNICAL SKILLS ASSESSMENT

Colleges should report the following for students who complete the program with a career certificate, technical certificate, or an Associate of Applied Science Degrees for technical skills attainment.

The Mississippi Fire Academy or other approved fire and emergency service training institutions in other states will be used to assess students upon completion of this program, after meeting the requirements for the AAS degree.

# ONLINE AND BLENDED LEARNING OPPORTUNITIES

Course content includes lecture and laboratory semester credit hours. Faculty members are encouraged to present lecture related content to students in an online or blended learning environment. Training related to online and blended learning will be available to faculty members through the MS Community College Board.

# PROGRAM DESCRIPTION

Fire Protection Technology is an instructional program that prepares individuals to provide firefighting and basic emergency care. Firefighters also function as a part of the EMS response, providing skills and knowledge in a variety of emergencies. Fire Protection Technology may be taught as a Career Certificate, Technical Certificate, or Associate of Applied Science (AAS) degree. Courses taken as part of the Career Certificate can be transferred to the Technical Certificate and the AAS degree program. Students who complete the program are eligible to take certification courses at the Mississippi Fire Academy.

The certification courses are based on professional qualification standards referenced by the Mississippi Fire Personnel Minimum Standards and Certification Board and the Mississippi Fire Academy (http://www.mid.state.ms.us/fireacad/) as developed by the National Fire Association, National Fire Protection Association (http://www.nfpa.org/), and the United States Fire Administration (http://www.usfa.fema.gov/).

# SUGGESTED COURSE SEQUENCE

**Fire Protection Technology Career Pathway**

| | | | SCH Breakdown | | | Credit Hour Breakdown | | Certification Information |
|---|---|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lec-ture | Lab | Total Credit Hours | Lec-ture | Lab | Certification Name |
| FFT 1113 | Introduction to Fire Science | 3 | 3 | | 45 | | | |
| FFT 1123 | Introduction to Fire Prevention | 3 | 3 | | 45 | | | |
| FFT 1213 | Firefighting Principles and Practices | 3 | 3 | | 45 | | | |
| | Electives approved by instructor | 6 | 6 | | 90 | | | |
| | **TOTAL** | **15** | **15** | | **225** | | | |

**Career Certificate Required Courses Fire Protection Technology**

| | | | SCH Breakdown | | | Credit Hour Breakdown | | Certification Information |
|---|---|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lecture | Lab | Total Credit Hours | Lect ure | Lab | Certification Name |
| FFT 1113 | Introduction to Fire Science | 3 | 3 | | 45 | | | |
| FFT 1123 | Introduction to Fire Prevention | 3 | 3 | | 45 | | | |
| FFT 1213 | Firefighting Principles and Practices | 3 | 3 | | 45 | | | |
| FFT 1223 | Fire Apparatus and Equipment | 3 | 3 | | 45 | | | |
| FFT 2313 | Fire Service Hydraulics | 3 | 3 | | 45 | | | |
| FFT 2323 | Building Construction | 3 | 3 | | 45 | | | |
| FFT 2333 | Fire Fighter Safety | 3 | 3 | | 45 | | | |
| FFT 2413 | Strategy and Tactics | 3 | 3 | | 45 | | | |
| FFT 2423 | Incident Management Systems | 3 | 3 | | 45 | | | |
| FFT 2433 | Special Prob Fire Protection | 3 | 3 | | 45 | | | |
| | **TOTAL** | **30** | **30** | | **450** | | | |

**Technical Certificate Required Courses Fire Protection Technology**

| | | | SCH Breakdown | | | Credit Hour Breakdown | | Certification Information |
|---|---|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lecture | Lab | Total Credit Hours | Lecture | Lab | Certification Name |
| FFT 1813 | Fire Law | 3 | 3 | | 45 | | | |
| FFT 2813 | Fire Department Management | 3 | 3 | | 45 | | | |
| FFT 2823 | Fire Supervision | 3 | 3 | | 45 | | | |
| FFT 2833 | Financial Management | 3 | 3 | | 45 | | | |
| | Elective approved by instructor | 3 | 3 | | 45 | | | |
| | **TOTAL** | **15** | **15** | | **225** | | | |

**Community Fire Risk Management Technical Certificate Option**

| | | | SCH Breakdown | | | Credit Hour Breakdown | | Certification Information |
|---|---|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lecture | Lab | Total Credit Hours | Lecture | Lab | Certification Name |
| FFT 1913 | Planning for Fire and Emergency Service | 3 | 3 | | 45 | | | |
| FFT 2913 | Deliver Fire and Emergency Services | 3 | 3 | | 45 | | | |
| FFT 2923 | Comm Risk Management I | 3 | 3 | | 45 | | | |
| FFT 2933 | Comm Risk Management II | 3 | 3 | | 45 | | | |
| | Elective approved by instructor | 3 | 3 | | 45 | | | |
| | **TOTAL** | **15** | **15** | | **225** | | | |

**Approved Program Electives**

| | | | SCH Breakdown | | | Credit Hour Breakdown | | Certification Information |
|---|---|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lecture | Lab | Total Credit Hours | Lecture | Lab | Certification Name |
| FFT 1813 | Fire Law | 3 | 3 | | 45 | | | |
| FFT 1913 | Planning for Fire and Emergency Service | 3 | 3 | | 45 | | | |
| FFT 2813 | Fire Department Management | 3 | 3 | | 45 | | | |
| FFT 2823 | Fire Supervision | 3 | 3 | | 45 | | | |
| FFT 2833 | Financial Management | 3 | 3 | | 45 | | | |
| FFT 2913 | Deliver Fire and Emergency Services | 3 | 3 | | 45 | | | |
| FFT 2923 | Comm Risk Management I | 3 | 3 | | 45 | | | |
| FFT 2933 | Comm Risk Management II | 3 | 3 | | 45 | | | |
| | Computer Elective (CPT 1113 Fundamentals of Microcomputer Applications or other computer elective approved by the instructor) | | | | | | | |
| | Other Instructor Approved Electives | | | | | | | |
| | **TOTAL** | | | | | | | |

**Course Listing Fire Protection Technology**

| | | | SCH Breakdown | | | Program Certifications |
|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lecture | Lab | Total Contact Hours | |
| FFT 1113 | Introduction to Fire Science | 3 | 3 | | | |
| FFT 1123 | Introduction to Fire Prevention | 3 | 3 | | | |
| FFT 1213 | Firefighting Principles and Practices | 3 | 3 | | | |
| FFT 1223 | Fire Apparatus and Equipment | 3 | 3 | | | |
| FFT 1813 | Fire Law | 3 | 3 | | | |
| FFT 1913 | Planning for Fire and Emergency Service | 3 | 3 | | | |
| FFT 2313 | Fire Service Hydraulics | 3 | 3 | | | |
| FFT 2323 | Building Construction | 3 | 3 | | | |
| FFT 2333 | Fire Fighter Safety | 3 | 3 | | | |
| FFT 2413 | Strategy and Tactics | 3 | 3 | | | |
| FFT 2423 | Incident Management Systems | 3 | 3 | | | |
| FFT 2433 | Special Prob Fire Protection | 3 | 3 | | | |
| FFT 2813 | Fire Department Management | 3 | 3 | | | |
| FFT 2823 | Fire Supervision | 3 | 3 | | | |
| FFT 2833 | Financial Management | 3 | 3 | | | |
| FFT 2913 | Deliver Fire and Emergency Services | 3 | 3 | | | |
| FFT 2923 | Comm Risk Management I | 3 | 3 | | | |
| FFT 2933 | Comm Risk Management II | 3 | 3 | | | |
| | Other Instructor Approved Electives | | | | | |

## General Education Core Courses

To receive the Associate of Applied Science degree, a student must complete all of the required coursework found in the Career Certificate option, Technical certificate option, and a minimum of 15 semester hours of General Education core. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester or provided primarily within the last semester. Each community college will specify the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science degree at their college. The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Section 9 Standard 3 of the *Principles of Accreditation: Foundations for Quality Enhancement*[1] describes the general education core.

Section 9 Standard 3:

3. The institution requires the successful completion of a general education component at the undergraduate level that

   a) is based on a coherent rationale.

   b) is a substantial component of each undergraduate degree program. For degree completion in associate programs, the component constitutes a minimum of 15 semester hours of the equivalent; for baccalaureate programs, a minimum of 30 semester hours or the equivalent.

   c) ensures breadth of knowledge. These credit hours include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics. These courses do not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession.

**General Education Courses**

| | | | SCH Breakdown | | | Contact Hour Breakdown | | Certification Information |
|---|---|---|---|---|---|---|---|---|
| Course Number | Course Name | Semester Credit Hours | Lecture | Lab | Total Contact Hours | Lecture | Lab | Certification Name |
| | Humanities/Fine Arts | 3 | | | | | | |
| | Social/Behavioral Sciences | 3 | | | | | | |
| | Math/Science | 3 | | | | | | |
| | Academic electives | 6 | | | | | | |
| | **TOTAL** | **15** | | | | | | |

[1] Southern Association of Colleges and Schools Commission on Colleges. (2017). *The Principles of Accreditation: Foundations for Quality Enhancement.* Retrieved from http://www.sacscoc.org/2017ProposedPrinc/Proposed%20Principles%20Adopted%20by%20BOT.pdf

# COURSE DESCRIPTIONS

**Course Number and Name:** **FFT 1113** **Introduction to Fire Science**

**Description:** An orientation to the fire service, this course explores department structure and organization, operations and responsibilities, and the history of the fire services and changes that are currently remolding traditional fire services.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Explain the many areas of fire science. [FP1, FP2, FP3, FP4]
   a. Describe the components of the history and philosophy of the modern-day fire service.
   b. Analyze and examine the basic components of fire as a chemical reaction, the major phases of fire, and the main factors that influence fire spread and fire behavior.
   c. Describe the differences between fire service training and education, a fire protection certificate program, and a fire service degree program; explain the value of education in the fire service.
   d. Identify and describe the major organizations that provide emergency response service and illustrate how they interrelate.
   e. Identify fire protection and emergency-service careers in both the public and in the private sector.
   f. Describe the role of national, state, and local support organizations in fire protection and emergency services.
   g. Identify and describe the scope, purpose, and organizational structure common to the fire and emergency services.
   h. Describe the common types of fire and emergency services facilities, equipment, and apparatus.
   i. Compare and contrast effective management concepts for various emergency situations.
   j. Identify and explain the components of fire prevention, including code enforcement, public information, and public and private fire protection systems.
   k. Identify a specific problem related to a fire science concept and apply research information toward the development of a proposed solution.

**Standards for Fire Protection Technology**
FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 1123** **Introduction to Fire Prevention**

**Description:** This course introduces students to modern approaches of fire prevention. An overview of current fire prevention methods is provided, including codes and standards, company-based inspections, public fire education, interdiction programs, and legislation affecting fire prevention activities.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Clinical | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Read, analyze, and determine the importance of regulations, fire prevention, and organizations. FP1, FP2, FP3, FP4
   a. Define the national fire problem and main issues relating to the accidental causes of fire.
   b. Describe the need, responsibilities, and importance of fire prevention as part of an overall mix of fire protection.
   c. Describe the need, responsibilities, and importance of fire prevention organizations.
   d. Determine the minimum professional qualifications at the state and national level for Fire Inspector, Fire Investigator, and Fire and Life Safety Educator.
   e. Define the purpose and elements of an effective plan review program.
   f. Identify the laws, rules, codes, and other regulations relevant to fire protection of the authority having jurisdiction.
   g. Define the purpose and elements of an effective fire and life safety education program.
   h. Define the purpose and elements of an effective media campaign used to promote fire prevention.
   i. Discuss the major programs for public education.
   j. Identify a specific problem related to fire prevention and apply research information toward the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 1213** **Firefighting Principles and Practices**

**Description:** A basic fire- fighting tactical course, this class provides information about the major principles and practices conducted at fire and emergency scenes. Concentrating on activities of rescue, ventilation, salvage, overhaul, offensive and defensive attack methods, and firefighter safety, students explore various operations that must be conducted in a coordinated manner.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Explore the conditions conducive to fires and firefighting strategies. [FP1, FP2, FP3, FP4]
   a. Identify physical properties of the three states of matter.
   b. Identify the fundamental components of fire and describe the burning process.
   c. Describe the physical and chemical properties of fire.
   d. Discuss various materials and their relationship to fires as fuel.
   e. Describe the methods used to classify various fuels and burning criteria.
   f. Define the basic terminology associated with the chemistry and describe the dynamics of fire as a chemical reaction.
   g. Demonstrate knowledge of the characteristics of water as a fire suppression agent.
   h. Identify and describe the extinguishing action of other alternative suppression agents and strategies.
   i. Describe the common methods and techniques of fire suppression and the conditions that indicate their most efficient use in an emergency situation.
   j. Identify a specific problem related to fire suppression and apply research information toward the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 1223** **Fire Apparatus and Equipment**

**Description:** Engines, pumps, operating procedures, maintenance techniques, and equipment specifications are discussed while providing a working knowledge and understanding of various types of apparatus and equipment used by the fire service.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Clinical | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Discuss fire services and equipment. [FP1, FP2, FP3, FP4]
   a. Identify and describe the common types of fire and emergency services facilities.
   b. Identify and describe the common types and uses of rescue and forcible entry equipment.
   c. Identify and describe the common types and uses of fire suppression equipment.
   d. Identify and describe the common types and uses of fire apparatus including those used for rescue, wildland fire protection, aircraft fire fighting, and aerial access.
   e. Describe the design principles of fire service pumping apparatus.
   f. Apply mathematics and physics to the movement of water in fire suppression activities.
   g. Analyze water-flow demand criteria to meet specific fire suppression requirements.
   h. Demonstrate the application of mathematical principles used to calculate the physical forces that affect water at rest and in motion.
   i. Identify a specific problem related to fire apparatus, equipment, or water supply and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 1813** **Fire Law**

**Description:** An analysis of public law that affects the fire service is the basics of this class. From laws related to codes and standards, administrative and management practices, to those related to the fire ground, students learn the fundamentals of fire department operations and management.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Clinical | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Research and explain laws and legal issues as they relate to fires and fire departments. [FP1, FP2, FP3, FP4]
   a. Discuss the federal, state, and local laws that regulate the fire department and influence the methods by which emergency services are delivered.
   b. Identify potential legal and political issues that commonly place fire department leaders at risk.
   c. Given a series of case studies, describe the legal lessons learned from recent cases, and identify best practices to avoid legal liability.
   d. Interpret relevant laws and apply political and legal conclusions towards complying with such laws.
   e. Locate and apply recent legal and legislative online resources.
   f. Define the different types of laws and explain how each is created and applied to a democratic society.
   g. Explain the role and purpose of national codes and standards concerning their legal influence.
   h. Demonstrate an understanding of how legal decisions and opinions can or will affect the fire service.
   i. Discuss the organization and legal structure of the fire department.
   j. Define the potential sources of liability and legal duties of emergency service personnel.
   k. Explain the legal concept of negligence in an emergency setting.
   l. Define discrimination and identify areas of potential discrimination in the emergency service.
   m. Explain the purpose and application of federal labor and employment laws.
   n. Identify a specific problem related to a legal or political issue within the fire and service and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** FFT 1913 Planning for Fire and Emergency Services

**Description:** With emphasis on the identification and evaluation of problems common to the management of public-safety resources, this course explores the planning, training, and logistical concerns needed to maintain organizational readiness and community preparedness.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Describe and assess the organization aspects of fires and fire departments. [FP1, FP2, FP3, FP4]
   a. Explain how a fire and emergency service organization articulates a vision and defines its mission.
   b. Describe the components of project planning and identify the steps of the planning cycle.
   c. Describe how a cultural assessment works to determine potential strategic issues and the direction of an organization.
   d. Assess the organizational relationship between budgeting, operational plans, and strategic plans.
   e. Describe the purpose, function, and current and future security concerns of a working document publication, storage, and integrity.
   f. Assess the impact that training and education can have on the organization's ability to carry out its stated mission.
   g. Describe common methods used to collect local response data and how such information can be analyzed to improve organizational capabilities.
   h. Demonstrate the ability to write fire-related research objectives.
   i. Research, evaluate, and discuss various sources from which external fire-related research information is available.
   j. Identify a specific problem related to planning for fire and emergency services and apply research information toward the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** FFT 2313 Fire Service Hydraulics

**Description:** A study in the fundamental principles of preparing for and responding to local disasters. This course focuses on analyzing resources, developing and implementing response plans, and starting the recovery process.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Describe and differentiate local, state, and national responses to disasters. [FP1, FP2, FP3, FP4]
   a. Define the phases of a disaster and explain the common tasks associated with preparation, mitigation, response, and recovery.
   b. Describe the fire department's role in responding to a community disaster and explain the concepts of mutual aid and automatic aid.
   c. Differentiate the availability of disaster resources from local, state, federal, and private agencies or organizations.
   d. Identify communications issues that commonly occur among the various levels of government that respond in times of disaster.
   e. Explain how public communication systems can fail during times of disaster and any alternate/redundant methods used to limit the impact of such failures.
   f. Explain the stages of the damage assessment process and the reporting requirements following a local disaster.
   g. Describe the various federal, state, and local assistance programs available to disaster victims during the recovery phase.
   h. Evaluate the roles and responsibilities of key state and federal personnel in responding to a declared major disaster.
   i. Determine some typical responses that may be anticipated in disaster survivors and responders.
   j. Explain the importance of crisis counseling and stress management programs during disaster response and recovery operations.
   k. Describe the various types of public sheltering systems and their common limitations during times of disaster.
   l. Identify a specific problem related to disaster management and apply research information toward the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

1.

**Course Number and Name:** **FFT 2323** **Building Construction**

**Description:** This course investigates building construction from the standpoint of the fire service. A basic overview of building codes and construction methods is used to familiarize students with building components and construction types. Students will be responsible for having an understanding of why buildings burn and the dangers associated with the types of construction.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Analyze and understand building codes and their relationship to fires and fire hazards. [FP1, FP2, FP3, FP4]
   a. Demonstrate an understanding of the components of building construction that relate to fire and life safety.
   b. Demonstrate an understanding of building codes, fire prevention, code inspection, and firefighting strategy and tactics.
   c. Classify the major types of building construction and occupancy designations according to recognized building codes.
   d. Analyze the hazards and tactical considerations associated with the various types of building construction.
   e. Explain the different loads and stresses that are placed on a building and their interrelationships.
   f. Identify the principle structural components of buildings and demonstrate an understanding of the function of each.
   g. Differentiate between fire resistance and flame spread and describe the testing procedures used to establish ratings for each.
   h. Identify the indicators of potential structural failure as they relate to firefighter safety.
   i. Identify and analyze the causes involved in the line of duty firefighter deaths related to structural firefighting, training and research and the reduction of emergency risks and accidents.
   j. Identify a specific problem related to structural fire-fighting operations and apply research information toward the development of a proposed solution.

1.

**<u>Standards for Fire Protection Technology</u>**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2333** **Fire Fighter Safety**

**Description:** This course provides an overview of safety practices for the emergency service worker. Covering the individual and team from "in the station," through the emergency scene, and return back to service, this course is essential for those who participate in emergency service activities.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Identify and describe safety practices for emergency service workers. [FP1, FP2, FP3, FP4]
   a. Describe the history of health and safety program and the impact of occupational health safety programs in the modern fire service.
   b. Identify the national standards and federal regulations that impact fire service health and safety programs.
   c. Explain the concepts associated with risk identification and risk evaluation.
   d. Describe the components of an effective response safety plan.
   e. Describe the components of the preincident planning process.
   f. Describe the considerations for safety in fire stations and emergency response vehicles.
   g. Describe the components of an accountability system in emergency operations.
   h. Describe the methods of controlling hazards associated with responding to emergency medical, hazardous material, and technical rescue incidents.
   i. Explain the need for and the process used for post-incident analysis and critical incident management programs.
   j. Describe the responsibilities of individual responders, supervisors, safety officers, incident commanders, safety program managers, safety committees, and fire department managers as they relate to health and safety programs.
   k. Describe the components of a fire department wellness plan, fitness plan, and member assistance program.
   l. Identify a specific problem related to firefighter health or incident safety and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2413** **Strategy and Tactics**

**Description:** Strategy and tactics used in a variety of situations faced by the fire service are explored. Covering different situations from small everyday occurrences to massive conflagrations, this course makes use of simulations and case histories in exploring necessary strategy and tactical endeavors.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Describe and apply strategies and tactics. [FP1, FP2, FP3, FP4]
   a. Analyze the principles of fire control through the proper utilization of personnel, equipment, and extinguishing agents.
   b. Explain the impact of fire behavior and fire chemistry to the selection and application of appropriate extinguishing agents.
   c. Describe the main components of preincident planning and identify the steps to conduct an effective preincident plan review.
   d. Explain the basics of building construction and how they interrelate to preincident planning.
   e. Describe the major steps taken during size-up and identify the order in which they will take place at an incident.
   f. Recognize and articulate the importance of fire ground communications.
   g. Identify and define the main functions within the ICS system and how they interrelate during an incident.
   h. Given different scenarios, outline an incident command system that applies the appropriate resources to meeting all critical incident objectives.
   i. Identify and analyze the major causes involved in line-of-duty firefighter deaths related to health, wellness, fitness, and vehicle operations.
   j. Identify a specific problem related to the evaluation and selection of proper strategies or tactics and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2423** **Incident Management Systems**

**Description:** This course is a study of incident management systems used for handling situations from the smallest incidents to the largest. A variety of methods are discussed with emphasis placed on the National Incident Management Systems.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Explain and utilize incident management systems. [FP1, FP2, FP3, FP4]
   a. Identify and define the main functions within the ICS system and how they interrelate during an incident.
   b. Explain the relationship between effective ICS and the use of incident objectives (life safety, incident stabilization, and property conservation).
   c. Describe how the fire service uses ICS to maintain safe and effective communication channels during emergency and nonemergency incidents.
   d. Explain the ICS concept *span of control* and describe how it can influence personnel accountability.
   e. Explain the ICS concept *unified command* and describe how it can be adapted to work in multijurisdictional and multiagency situations.
   f. Describe the process of sectoring and how it provides a uniform method of geographical identification for specific points within an incident area.
   g. Explain how ICS can be modified to deal with immediate threats to response personnel and other on-scene emergency procedures.
   h. Given case studies of large-scale disasters, identify the short-range and long-range planning methods used to forecast logistical needs.
   i. Describe the process of staging and how to effectively manage and deploy incoming resources.
   j. Explain the importance of responder rehabilitation and the ICS procedures for providing on-scene rehabilitation services.
   k. Explain the use of resource typing and common terminology within ICS to improve interoperability and communications.
   l. Describe the process of demobilization and how ICS is used to effectively reduce the number of on-scene resources.
   m. Identify a specific problem related to the effective management of incident resources and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2433** **Special Prob Fire Protection**

**Description:** This course provides selected problems aimed at local fire-service needs. Students utilize critical thinking and perform the necessary research to develop effective solutions.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Identify and investigate issues to local fire service departments. [FP1, FP2, FP3, FP4]
   a. Identify and investigate various issues that pose a special concern or unique threat to the delivery of fire and emergency services.
   b. Identify areas of ongoing fire-related research and the organizations or programs that have developed applications to reduce hazardous situations.
   c. Investigate, evaluate, and interpret research in the areas of fire service operations, fire dynamics, and fire prevention.
   d. Investigate, evaluate, and interpret research in the area of fire test standards and code development.
   e. Explain current trends that indicate future developments in fire-related research.
   f. Demonstrate the ability to utilize various informational and media resources to collect data related to a specific fire or emergency service problem.
   g. Complete a formal research proposal on a problematic fire or emergency service topic and apply a recognized method of investigation, organization, and presentation.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2813** **Fire Department Management**

**Description:** This course introduces students to management. Particular attention is paid to the management process as it relates to both nonemergency and emergency aspects of the fire officer's role.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Examine management techniques and issues in nonemergency and emergency situations. [FP1, FP2, FP3, FP4]
    a. Examine the organization and management of a fire department and the relationship of government agencies to the fire service.
    b. Identify career-development opportunities and strategies for employee success.
    c. Describe the concepts of span and control, effective delegation, and division of labor.
    d. Explain how effective appraisals and progressive disciplinary action can impact employee behavior.
    e. Examine the history and development of fire service management and supervision.
    f. Evaluate methods of managing available resources and identify the roles and responsibilities of leaders within the fire department.
    g. Identify and assess personnel safety needs for both emergency and nonemergency situations.
    h. Identify the importance of ethics as they apply to fire department supervisors.
    i. Identify the role of a company officer in establishing an effective incident command system (ICS).
    j. Describe the need and benefits of consistent and accurate documentation within the fire service.
    k. Identify and analyze the major causes of firefighter line-of-duty injuries and deaths.
    l. Identify a specific problem related to the management of fire and emergency service resources and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**
FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2823** **Fire Supervision**

**Description:** Focusing specifically on supervising and managing personnel involved with fire protection, this course provides students with information on developing effective supervisory techniques, the role of the supervisor, dealing with problem situations, and other areas relating to personnel in fire science and individual work groups.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Identify and explain supervising and managing personnel. [FP1, FP2, FP3, FP4]
   a. Identify and explain contemporary management issues that occur due to variations in fire department demographics.
   b. Explain the collective rules, procedures, laws, and policies that impact personnel management issues.
   c. Describe the most common personnel management issues that affect the recruitment of emergency service personnel.
   d. Compare and contrast the traits of effective and ineffective supervision and management styles.
   e. Discuss the components and styles of leadership.
   f. Explain the principles associated with organizational development and the leadership structures commonly seen throughout fire service.
   g. Describe the managerial relationships that exist between financial, human, facilities, equipment, and information resources.
   h. Explain the importance of public access to government and fire department operations.
   i. Describe the key elements of successful communication to meet both internal and external customer needs.
   j. Explain the need for effective personnel evaluation procedures and how such data can be applied to organizational improvement.
   k. Identify a specific problem related to the supervision of fire and emergency service personnel and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2833** **Financial Management**

**Description:** Budgeting and financial management are the primary concerns of this course. Various methods of budgeting are discussed as well as budgetary tracking methods and evaluation procedures. An applied project requires the development of a model budget for the student's fire service organization.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Describe and apply techniques of budgeting and financial management. [FP1, FP2, FP3, FP4]
    a. Describe the typical sources of income used to fund fire department operations.
    b. Explain the purpose and need for an effective budgeting process.
    c. Identify and define the types of budgets commonly used to guide fire department financial management.
    d. Describe the use of regular budget analysis and its potential influence on setting fire department spending priorities.
    e. Explain the impact personnel costs can have on the overall fire department budget.
    f. Describe how funds can be divided to accommodate different training needs and resources.
    g. Explain the typical interaction between the fire department and other governmental departments as it relates to the budgeting process.
    h. Identify the laws and regulations common to purchasing vehicles, equipment, supplies, and services with public funds.
    i. Explain the process of predicting and budgeting for capital needs to meet fire department objectives.
    j. Identify the common sources of grant funding and how grants can impact fire department operations.
    k. Describe the most common procedures for auditing the use of public funds and how chief fire executives can be held accountable for spending decisions.
    l. Explain the options available to chief fire executives for managing a reduction in funding.
    m. Identify a specific problem related to the funding of fire and emergency service activities and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2913** **Deliver Fire and Emergency Services**

**Description:** The proper deployment of adequate resources is often the most critical aspect of an effective response. This course emphasizes methods for interpreting data and making sound tactical decisions to manage local emergency situations and other large-scale incidents.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Identify and explain proper deployment techniques of adequate resources in fighting fires and incidents. [FP1, FP2, FP3, FP4]
    a. Describe the role of the fire department as a part of the community government and comprehensive public safety plan.
    b. Explain the importance of a good working relationship with public officials and the community as a whole.
    c. Describe the methods used to assess the relationship between the fire department and the community.
    d. Identify the various local, state, and national organizations that are beneficial to the fire department.
    e. Identify, name, and understand the basic chemistry and hazards involved with the nine U.S. Department of Transportation hazard classes and their divisions.
    f. Explain the correlation between effective resource deployment and the need for rapid response times.
    g. Define minimum staffing and explain how changes can impact the delivery of fire suppression and rescue services.
    h. Describe the nonsuppression services that are often assigned to the fire department and how they can impact personnel, training, and resources.
    i. Explain the process used to alert and dispatch fire department resources and the various systems used to carry out this task.
    j. Identify a specific problem related to the delivery for fire and emergency services and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**
FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2923** **Comm Risk Management I**

**Description:** This course facilitates the analysis of local-area hazard data and threat control principles relating to personal and environmental risks. Investigation techniques, inspection methodologies, and prevention programs essential to public safety are emphasized.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Research and analyze hazards and threats to safety. [FP1, FP2, FP3, FP4]
   a. Identify and explain the responsibilities of the fire department to investigate incidents and attempt to determine a reasonable cause.
   b. Define criminal law and explain the constitutional amendments (4th, 5th, 6th, 8th, and 14th) as they apply to fire investigations.
   c. Analyze the precedents set by constitutional law case studies that have affected fire investigations.
   d. Define and explain the common terms used in fire investigations.
   e. Identify the types of fire causes and differentiate between accidental and incendiary causes.
   f. Analyze the relationship of building construction on fire investigations including types of construction and finish materials.
   g. Evaluate fire protection systems and building services and discuss how their installation affects the ignition of fires in buildings.
   h. Discuss the basic principles of electricity as a potential source of ignition.
   i. Explain the role of the fire investigator in recognizing health and safety concerns including potential hazardous materials awareness.
   j. Describe fire-scene investigations and the process of conducting investigations using the scientific method.
   k. Describe and explain the basic procedures used for investigating vehicle fires.
   l. Compare and contrast the characteristics of arson and common motives of adult and juvenile fire-setters.
   m. Identify a specific problem related to the investigation of accident data and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **FFT 2933** **Comm Risk Management II**

**Description:** A continuation of the principles addressed in Community Risk Management I, this course requires the analysis of a specific hazard and the application of specialized mitigation and control measures. The use of various codes, standards, and regulations related to such activities serves as the focal point of this course.

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 3 | 3 | 0 | 45 |

**Prerequisite:** Instructor Approved

**Student Learning Outcomes:**

1. Analyze hazards and the application of specialized mitigation and control measures. [FP1, FP2, FP3, FP4]
   a. Identify potential problems and solutions related to issues of community fire risk management.
   b. Define risk management as it applies to the concepts of fire hazard reduction and fire prevention.
   c. Explain the importance of organized and effective leadership to community fire risk management.
   d. Describe the role risk management and community awareness plays within the fire department's mission.
   e. Explain how effective risk management is primarily a community-based strategy.
   f. Describe the history of fire code development and the process used in the United States to write, revise, and implement such codes.
   g. Define the various fire codes available to the fire service and the geopolitical significance of each code-making organization.
   h. Identify and describe the methods used to measure a community's risk potential from fire.
   i. Describe the importance of preincident planning to support an effective fire risk management program.
   j. Describe the importance of plans review and continuous inspection to support an effective fire risk management program.
   k. Identify a specific problem related to the examination and inspection of community fire hazards and apply research information to the development of a proposed solution.

**Standards for Fire Protection Technology**

FP1 United States Fire Administration
FP2 National Fire Association
FP3 Mississippi Fire Academy
FP4 National Fire Protection Association

**Course Number and Name:** **WBL 191(1-3), WBL 192(1-3), WBL 193(1-3), WBL 291(1-3), WBL 292(1-3), and WBL 293(1-3)** **Work-Based Learning I, II, III, IV, V, and VI**

**Description:** A structured work-site learning experience in which the student, program area teacher, Work-Based Learning Coordinator, and worksite supervisor/mentor develop and implement an educational training agreement. Designed to integrate the student's academic and technical skills into a work environment. Includes regular meetings and seminars with school personnel for supplemental instruction and progress reviews. (1-3 sch: 3-9 hours externship)

**Hour Breakdown:**

| Semester Credit Hours | Lecture | Lab | Contact Hours |
|---|---|---|---|
| 4 | 2 | 4 | 90 |

**Prerequisite:** Instructor approved

**Student Learning Outcomes:**

1. Apply technical skills and related academic knowledge needed to be a viable member of the workforce.
    a. Apply technical skills needed to be a viable member of the workforce.
    b. Apply skills developed in other related courses in a work-based setting.
    c. Perform tasks detailed in an educational training agreement at the work setting.

2. Apply general workplace skills to include positive work habits and responsibilities necessary for successful employment.
    a. Demonstrate pro-active human relationship skills in the work setting to include conflict resolution, team participation, leadership, negotiation, and customer/client service.
    b. Demonstrate time, materials, and resource management skills.
    c. Demonstrate critical thinking skills such as problem solving, decision making, and reasoning.
    d. Demonstrate acquiring, evaluating, organizing, maintaining, interpreting, and communicating information.
    e. Demonstrate positive work habits and acceptance of responsibilities necessary for successful employment.

# APPENDIX A: RECOMMENDED TOOLS AND EQUIPMENT

**CAPITALIZED ITEMS**

Projector, overhead (1 per room)
Computer/Laptops
Television (1 per room)

**NON-CAPITALIZED ITEMS**

VCR/DVD (1 per room)
Video camera standard VHS (1 per lab)
Table, mobile for portable overhead projector (desk type) (1 per program)

# APPENDIX B: CURRICULUM DEFINITIONS AND TERMS

Course Name – A common name that will be used by all community colleges in reporting students

Course Abbreviation – A common abbreviation that will be used by all community and junior colleges in reporting students

Classification – Courses may be classified as the following:

a. Career Certificate Required Course – A required course for all students completing a career certificate.
b. Technical Certificate Required Course – A required course for all students completing a technical certificate.
c. Technical Elective – Elective courses that are available for colleges to offer to students.

Description – A short narrative that includes the major purpose(s) of the

Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course

Corequisites – A listing of courses that may be taken while enrolled in the course

Student Learning Outcomes – A listing of the student outcomes (major concepts and performances) that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:
The content of the courses in this document reflects approximately 75% of the time allocated to each course. The remaining 25% of each course should be developed at the local district level and may reflect the following:

Additional competencies and objectives within the course related to topics not found in the state framework, including activities related to specific needs of industries in the community college district
Activities that develop a higher level of mastery on the existing competencies and suggested objectives
Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed or revised
Activities that include integration of academic and career–technical skills and course work, school-to-work transition activities, and articulation of secondary and postsecondary career–technical programs
Individualized learning activities, including work-site learning activities, to better prepare individuals in the courses for their chosen occupational areas.

Sequencing of the course within a program is left to the discretion of the local college. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors. Programs that offer an Associate of Applied Science Degree must include all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college.

In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:

Adding new student learning outcomes to complement the existing competencies and suggested objectives in the program framework.
Revising or extending the student learning outcomes
Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the Mississippi Community College Board [MCCB] of the change)

# APPENDIX C: COURSE CROSSWALK

## COURSE CROSSWALK
## Fire Protection Technology
CIP 43.0203 Fire Science/Fire-Fighting

***Note: Courses that have been added or changed in the 2019 curriculum are highlighted.***

| Existing | | | Revised | | |
|---|---|---|---|---|---|
| **2012 MS Curriculum Framework** | | | **2019 MS Curriculum Framework** | | |
| **Course Number** | **Course Title** | **Hours** | **Course Number** | **Course Title** | **Hours** |
| FFT 1113 | Introduction to Fire Science | 3 | FFT 1113 | Introduction to Fire Science | 3 |
| FFT 1123 | Introduction to Fire Prevention | 3 | FFT 1123 | Introduction to Fire Prevention | 3 |
| FFT 1213 | Firefighting Principles and Practices | 3 | FFT 1213 | Firefighting Principles and Practices | 3 |
| FFT 1223 | Fire Apparatus and Hydraulics | 3 | FFT 1223 | Fire Apparatus and Equipment | 3 |
| FFT 1813 | Fire Law | 3 | FFT 1813 | Fire Law | 3 |
| FFT 1913 | Planning for Fire and Emergency Service | 3 | FFT 1913 | Planning for Fire and Emergency Service | 3 |
| FFT 2313 | Disaster Management | 3 | FFT 2313 | Fire Service Hydraulics | 3 |
| FFT 2323 | Building Construction | 3 | FFT 2323 | Building Construction | 3 |
| FFT 2333 | Fire Fighter Safety | 3 | FFT 2333 | Fire Fighter Safety | 3 |
| FFT 2413 | Strategy and Tactics | 3 | FFT 2413 | Strategy and Tactics | 3 |
| FFT 2423 | Incident Management Systems | 3 | FFT 2423 | Incident Management Systems | 3 |
| FFT 2433 | Special Problems in Fire Protection | 3 | FFT 2433 | Special Prob Fire Protection | 3 |
| FFT 2813 | Fire Department Management | 3 | FFT 2813 | Fire Department Management | 3 |
| FFT 2823 | Fire Service Supervision | 3 | FFT 2823 | Fire Supervision | 3 |
| FFT 2833 | Financial Management | 3 | FFT 2833 | Financial Management | 3 |
| FFT 2913 | Delivery of Fire and Emergency Services | 3 | FFT 2913 | Deliver Fire and Emergency Services | 3 |
| FFT 2923 | Community Risk Management I | 3 | FFT 2923 | Comm Risk Management I | 3 |
| FFT 2933 | Community Risk Management II | 3 | FFT 2933 | Comm Risk Management II | 3 |

# APPENDIX D: RECOMMENDED TEXTBOOK LIST

| Recommended Textbook List<br>CIP 43.0203 Fire Science/Fire-Fighting | | |
|---|---|---|
| **Book Title** | **Author(s)** | **ISBN** |
| Introduction to fire protection (4th ed.) | Klinoff, R. | 978-1439058428 |
| Introduction to fire prevention (7th ed.) | Robertson, J. | 978-0135041949 |
| Firefighting principles and practices (2nd ed.) | Clark, W. | 978-0878149209 |
| Fire apparatus purchasing handbook (1st ed.) | Petters, W. | |
| Fire service law (1st ed.) | Bennett, L. | 978-0131552883 |
| Advanced fire administration (1st ed.) | Bruegman, R. | |
| The fire officer's guide to disaster control (2nd ed.) | Kramer, W. | |
| Brannigan's building construction for the fire service (4th ed.) | Corbett, G. | |
| Safety and survival on the fireground (1st ed.) | Dunn, V. | |
| Fireground strategies (2nd ed.) | Avillo, A. | 978-1593701598 |
| Incident command for the street smart fire officer (2nd ed.) | Coleman, W. | |
| Fire department special operations (1st ed.) | Norman, J. | |
| Management in the fire service (1st ed.) | Carter, H. | |
| Fire service personnel management (3rd ed.) | Edwards, S. | 978-0135126776 |
| The fire chief's handbook (6th ed.) | Eversole, J. | |
| Fire administration (1st ed.) | Bruegman, R. | 978-0131720848 |
| Kirk's fire investigation (7th ed.) | De Haan, J. | |
| Fire inspection and code enforcement (7th ed.) | IFSTA | 978-0879393489 |