



# Program of Study Guide: **Fire Fighter - DRAFT**

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Comprehensive guidelines and course standards

Office of College and Career Pathways

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## Purpose

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**The Program of Study (POS) is designed to prepare students for careers in firefighting, public safety, and related fields. This POS offers students a rigorous academic and technical education, equipping them with the skills, knowledge, and hands-on experience necessary to transition seamlessly into postsecondary education, training programs, or immediate employment in emergency services.**

In addition to academic standards, the Maryland State Department of Education (MSDE) has incorporated into this document Labor Market Information (LMI) definitions and explanations for the Program of Study; program aligned Industry Recognized Credentials; and Work-Based Learning resources and requirements by course level.

This document is intended for use by educational administrators and practitioners. A similar document is available for each state-approved CTE Program of Study.

## Sources of Standards

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The development of the Program of Study (POS) is informed by several authoritative sources that provide comprehensive guidelines and frameworks for emergency services education. These sources collectively offer a robust foundation for developing comprehensive and industry-aligned standards for the program, ensuring that students acquire the necessary skills and knowledge to succeed in the fields of fire and rescue, emergency medical services, and public safety.

Below is a list of these sources, along with descriptions, their applications in course development, and corresponding web links:

1. **Advance CTE's Career Clusters Framework**

- A. **Description:** The Advance CTE framework provides a nationally recognized structure for organizing career and technical education (CTE) into Career Clusters. Each cluster represents a grouping of occupations and industries, with the Public Service and Safety Career Cluster.
- B. **Use:** The framework serves as a foundational guideline for developing Emergency Services standards, ensuring alignment with industry-specific expectations, and highlighting essential knowledge and skills for each level of study.
- C. **Source:** Advance CTE Career Clusters: <https://careertech.org/career-clusters/>

2. **National Fire Protection Association (NFPA 1001):**

- A. **Description:** Identifies the minimum job performance requirements (JPRs) for career and volunteer firefighters whose duties are primarily structural in nature. It outlines the necessary knowledge and skills required for Firefighter I and Firefighter II certifications.
- B. **Use:** Serves as the primary standard for developing firefighting curriculum and ensures that training meets national professional qualifications.
- C. **Source:** NFPA 1001 Standard: <https://www.nfpa.org>

3. **Maryland Institute for Emergency Medical Responder (EMR) Systems (MIEMSS)**

- A. **Description:** MIEMSS oversees the training standards, certification processes, and licensure for EMRs in Maryland, ensuring that all personnel meet the state's requirements for emergency medical services.
- B. **Use:** Provides specific guidelines and protocols to enable individuals to act as first responders in emergency situations, delivering curriculum, ensuring that the curriculum meets Maryland's requirements for certification.
- C. **Source:** MIEMSS Official Site: <https://www.miemss.org/>

4. **Maryland Fire and Rescue Institute (MFRI) Fire Fighter I and Fire Fighter II**

- A. **Description:** MFRI is Maryland's comprehensive training and education system for emergency services. It provides state-specific training programs and certifications that meet or exceed national standards.
- B. **Use:** Offers curriculum and certification guidelines that align with state requirements, preparing students for certification exams and real-world firefighting scenarios in Maryland.
- C. **Source:** MFRI Official Site: <https://www.mfri.org/>

5. **Occupational Safety and Health Administration (OSHA)**

- A. **Description:** Establishes standards for workplace safety, including emergency response and handling of hazardous materials.

- B. **Use:** Integrates OSHA safety standards to ensure a safe learning environment and adherence to industry practices.
  - C. **Source:** OSHA Official Site: <https://www.osha.gov/>
6. **National Registry of Emergency Medical Technicians (NREMT)**
- A. **Description:** NREMT offers national certification for EMTs and establishes uniform standards for EMT education and competency.
  - B. **Use:** Aligns the program's curriculum with national certification requirements, preparing students for the NREMT EMT examination.
  - C. **Source:** NREMT: <https://www.nremt.org/>
7. **Hazardous Materials Awareness and Operations Certification (NFPA 1001)**
- A. **Description:** Training focuses on recognizing hazardous materials incidents and implementing defensive actions to protect people and the environment.
  - B. **Use:** Enhances the ability to safely respond to hazardous materials incidents, a critical component of emergency response.
  - C. **Source:** NFPA 1001 Standard: <https://www.nfpa.org/codes-and-standards/nfpa-1001-standard-development/1001>
8. **International Fire Service Training Association (IFSTA)**
- A. **Description:** FSTA develops and publishes training materials and curricula for fire and emergency services personnel.
  - B. **Use:** Utilize IFSTA's resources to enhance instructional content and ensure alignment with best practices in fire service training.
  - C. **Source:** IFSTA: <https://www.ifsta.org/>

## Course Descriptions

Course Level	Course Information	Description
Required Core: Course 1	Fire Fighter I SCED: <XX> Grades: 9-12 Prerequisite: None Credit: 1	This foundational course introduces students to emergency services with a focus on firefighting roles and public safety. Emphasizing professional behavior, teamwork, and an understanding of the roles and responsibilities within the public safety sector, students gain an overview of the firefighting profession and its critical importance in community safety.
Required Core: Course 2	Fire Fighter II SCED: <XX> Grades: 10-12 Prerequisite: Emergency Services I Credit: 1	Building on the foundational knowledge acquired in Emergency Services I, this course focuses exclusively on Fire Fighter I skills. Students will delve deeper into fire behavior, fire prevention, firefighting strategies, and gain hands-on experience with firefighting equipment. The course is designed to prepare students for the Fire Fighter I certification exam through the Maryland Fire and Rescue Institute (MFRI), ensuring alignment with NFPA 1001 standards.
Optional Flex: Course 1	Fire Fighter III SCED: <XX> Grades: 11-12 Prerequisite: Emergency Services I and II Credit: 1	This course focuses on advanced firefighting techniques and leadership skills required for the Fire Fighter II certification. Students engage in complex fire suppression methods, incident command system applications, hazardous materials operations, and specialized rescue procedures. The course prepares students to sit for the Fire Fighter II certification exam through the Maryland Fire and Rescue Institute (MFRI), further aligning with NFPA 1001 standards.

Course Level	Course Information	Description
Optional Flex: Course 2	Career Connected Learning I SCED: <XX> Grades: 11-12 Prerequisite: Emergency Services I and II Credit: 1	This flexible, work-based learning course introduces students to real-world applications of classroom knowledge and technical skills through on-the-job experiences and reflective practice. Students engage in career exploration, skill development, and professional networking by participating in youth apprenticeships, registered apprenticeships, pre-apprenticeships, internships, capstone projects, or other approved career-connected opportunities. Variable credit (1–3) accommodates the required on-the-job training hours and related instruction. By integrating industry standards, employability skills, and personalized learning goals, Career Connected Learning I equips students to make informed career decisions, develop a professional portfolio, and build a strong foundation for success in postsecondary education, training, or the workforce.
Optional Flex: Course 3	Career Connected Learning II SCED: <XX> Grades: 11-12 Prerequisite: Career Connected Learning I Credit: 1	Building on the foundational experiences of Career Connected Learning I, this advanced work-based learning course provides students with deeper on-the-job practice, leadership opportunities, and refined career exploration. Students continue to enhance their technical and professional skills, expanding their industry networks and aligning personal goals with evolving career interests. Variable credit (1–3) remains aligned with the required training hours and related instruction. Through elevated responsibilities and skill application, Career Connected Learning II prepares students to confidently transition into higher-level postsecondary programs, apprenticeships, or the workforce.

***Dual Enrollment and Career Connected Learning Experiences Must be Aligned to the CTE Core.***

## Industry-Recognized Credentials and Work-Based Learning

**Industry-Recognized Credentials – The standards in this document are aligned to the following certifications:**

**By the end of Course I:** Hazardous Materials Awareness and Operations Certification (NFPA)

Fire Fighter Fundamentals Workshop

OSHA 10-Hour General Industry Outreach Training

**By the end of Course II:** Fire Fighter I Certification - Maryland Fire and Rescue Institute (MFRI)

**Optional Credentials (Flex Course):**

Fire Fighter II Certification – Maryland Fire and Rescue Institute (MFRI)

EMT - National Registry of Emergency Medical Technicians (NREMT)

EMR - Maryland Institute for Emergency Medical Services Systems (MIEMSS)

### Work-Based Learning Examples and Resources

<b>Course I: Career Awareness</b>	<b>Course II: Career Preparation</b>	<b>Flex Course: Career Preparation</b>
<ul style="list-style-type: none"> <li>Industry Visits</li> <li>Guest Speakers</li> <li>Participation in Career and Technical Student Organizations</li> <li>Postsecondary Visits – Program Specific Site Tours</li> <li>Mock Interviews</li> </ul>	<ul style="list-style-type: none"> <li>All of Career Awareness plus the following:</li> <li>Job Shadow</li> <li>Paid and Unpaid Internships</li> <li>Local Emergency Services Facility Visits</li> </ul>	<ul style="list-style-type: none"> <li>Paid and Unpaid Internships</li> <li>Apprenticeships</li> <li>Dual Enrollment Opportunities</li> </ul>

## Labor Market Information: Definitions and Data

Labor market information (LMI) plays a crucial role in shaping Career and Technical Education (CTE) programs by providing insights into industry demands, employment trends, and skills gaps. This data helps education leaders assess the viability of existing programs and identify opportunities for new offerings. By aligning CTE programs with real-time labor market needs, schools can better prepare students for in-demand careers and ensure that resources are effectively used to support pathways that lead to high-quality, sustainable employment.

### Standard Occupational Code (SOC) and Aligned Industry:

Indicator	Definition	Pathway Labor Market Data
<b>High Wage<sup>1</sup></b>	<p>Those occupations that have a 25th percentile wage equal to or greater than the most recent MIT Living Wage Index for one adult in the state of Maryland, and/or leads to a position that pays at least the median hourly or annual wage for the DC-VA-MD-WV Metropolitan Statistical Area (MSA).</p> <p><i>Note: A 25th percentile hourly wage of \$24.74 or greater is required to meet this definition.</i></p>	<p><b>Standard Occupational Code:</b> 33-2011: Firefighters 29-2042: Emergency Medical Technicians (EMTs)</p> <p><b>Hourly Wage/Annual Salary: 29-2042</b> 25th Percentile: \$16.70 / \$34,730 50th Percentile: \$18.72 / \$38,930 75th Percentile: \$22.48 / \$46,760</p>

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<sup>1</sup> Living Wage Calculator: <https://livingwage.mit.edu/states/24>

Indicator	Definition	Pathway Labor Market Data
<b>High Skill</b>	Those occupations located within the DC-VA-MD-WV Metropolitan Statistical Area (MSA) with the following education or training requirements: completion of an apprenticeship program; completion of an industry-recognized certification or credential; associate's degree, bachelor's degree, or higher.	<p><b>Typical Entry-Level Education:</b></p> <p><b>Fire Fighters:</b>            Education: Generally, need a high school diploma or equivalent.            Training: Undergo training at a fire academy, covering fire suppression, hazardous materials control, and emergency medical procedures.            Certification: May require certification in emergency medical services, such as EMT or paramedic, depending on the department. Additional Requirements: Must pass written &amp; physical exams, drug screenings, and background checks.</p> <p><b>Emergency Medical Technicians (EMTs):</b>            Education: Typically require a high school diploma or equivalent.            Training: Must complete a state-approved emergency medical technology program, which includes both classroom instruction and hands-on experience.            Certification: After training, candidates must pass the National Registry of Emergency Medical Technicians (NREMT) exam to obtain certification.</p> <p>Licensure: State-specific licensure is required to practice as an EMT.</p>
<b>In-Demand</b>	Annual growth plus replacement, across all Maryland occupations, is <u>405</u> openings between 2024-2029.	<b>Annual Openings</b>

**Labor Market Information Data Source**

Q4 2024 Data Set. Occupation employment data are based on final industry data and final staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates are also affected by county-level Lightcast earnings by industry. Foundational data for the state of Maryland is collected and reported by the Maryland Department of Labor.

**Methodology for High Wage Calculations**

To combine labor market data across multiple Standard Occupational Classifications (SOCs), a weighted average approach was used to ensure accurate representation of the marketplace. Median wages for each SOC were weighted based on their respective employment levels, reflecting the relative demand for each occupation. This method ensures that occupations with higher employment contribute proportionately to the overall wage calculation. Additionally, job openings from all relevant SOCs were summed to determine the total projected demand. For example, if Mechanical Engineers account for 67% of total employment and Electrical Engineers for 33%, their respective wages are weighted accordingly, and job openings are aggregated to provide a comprehensive view of labor market opportunities. This approach delivers a balanced and accurate representation of both wages and employment demand for the program.

**Methodology for In-Demand Calculations**

The baseline for annual job openings, considering new positions and replacement positions, was determined by taking the average of all annual job openings between 2024 and 2029 across all 797 career sectors at the 5-digit SOC code level. For the 2024-2029 period, average job openings (growth + replacement) is 405.

## Course Standards: Fire Fighter I

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**1. GENERAL REQUIREMENTS** This course is recommended for students in Grades 9-10.

**2. INTRODUCTION**

- A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
- B. The Career Cluster is dedicated to preparing students for foundational careers in emergency medical services (EMS), firefighting, and public safety. This cluster emphasizes the essential skills needed to protect lives and property during emergencies. Professionals in this field operate across diverse settings, including municipal fire departments, EMS agencies, and disaster response teams.
- C. The Program of Study offers students foundational knowledge in firefighting emergency response, safety protocols, and basic medical skills. Students will gain hands-on experience through structured coursework and practical applications, enabling them to explore the essential functions of emergency services careers.
- D. Fire Fighter I introduces students to foundational topics such as the history of emergency services, ethical and legal responsibilities, and basic emergency medical responses. This course lays the groundwork for understanding the critical role of emergency services in community safety.
- E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, such as attending guest lectures, job shadowing, or site visits with local fire departments or EMS departments.
- F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.

**3. KNOWLEDGE AND SKILLS**

- A. **The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
  - 1. Identify and demonstrate positive work behaviors that enhance employability, including punctuality, professional appearance, and adherence to safety protocols.
  - 2. Exhibit effective communication and active listening skills when responding to emergency scenarios and working within a team.
  - 3. Solve problems using critical thinking and decision-making skills, especially during time-sensitive emergency situations.
  - 4. Demonstrate leadership and teamwork skills through group activities, drills, and role-playing exercises.
  - 5. Demonstrate an understanding of ethical and legal responsibilities in emergency response professions.
- B. **The student identifies various career pathways in emergency services. The student is expected to:**
  - 1. Design a career plan includes a clear pathway for advancement within emergency services, highlighting continuous education and specialization opportunities.

2. Develop a career plan that includes necessary education, certifications, job skills, and experience for roles in emergency services (e.g., Fire Fighter, EMT, or Paramedic).
  3. Demonstrate effective interview skills for roles in emergency services, with a focus on entry-level positions.
- C. **The student develops technology and digital literacy skills. The student is expected to:**
1. Use technology as a tool for research, organization, communication, and problem-solving.
  2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
  3. Demonstrate proficiency in using emerging and industry-standard technologies, including skills and applying creative techniques to create visually appealing products.
  4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.
- D. **The student integrates core academic skills into practice. The student is expected to:**
1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
  2. Apply English concepts such as writing informative texts when documenting the design process and articulating goals.
  3. Apply scientific principles relevant to emergency services, including understanding human anatomy and physiology, principles of physics in rescue operations, and the chemistry of fire and hazardous materials.
  4. Recognize the roles and responsibilities of government agencies, legal systems, and public policies that impact emergency services. This includes knowledge of laws, regulations, and ethical considerations that guide emergency response operations.
  5. Utilize mathematical skills, including measurement, ratios, and data interpretation in emergency response scenarios.
- E. **The student demonstrates knowledge and skills for ensuring safety in emergency scenarios. The student is expected to:**
1. Understand and implement safety protocols to minimize risks during emergency operations.
  2. Demonstrate knowledge of personal protective equipment (PPE) and its proper use in emergency situations.
  3. Recognize the importance of mental and physical fitness in emergency services careers.
- F. **The student develops physical and mental resilience for emergency services careers. The student is expected to:**
1. Understand strategies for managing stress and preventing burnout in high-stress environments.
  2. Practice mindfulness and coping techniques to improve focus and emotional regulation during emergencies.

## Course Standards: Fire Fighter II

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1. **GENERAL REQUIREMENTS** This course is recommended for students in Grades 10-11 and serves as a continuation of Fire Fighter I.
2. **INTRODUCTION**
  - A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
  - B. The Career Cluster is dedicated to preparing students for foundational careers in emergency medical services, firefighting, and public safety. This cluster emphasizes the skills needed to protect lives and property during emergencies. Professionals in this field work across diverse settings, including municipal fire departments, emergency medical services agencies, and disaster response teams.
  - C. The Program of Study offers students foundational knowledge in emergency response, safety protocols, and basic medical and firefighting skills. Students will gain hands-on experience through structured coursework and practical applications, enabling them to explore the essential functions of emergency services careers.
  - D. Fire Fighter II focuses on developing the skills necessary to achieve Emergency Medical Responder (EMR) certification. Students will explore advanced medical assessment techniques, life support procedures, and patient care practices. Additionally, the course introduces firefighting concepts such as hazardous material operations and scene management.
  - E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences in this course, such as attending guest lectures, job shadowing, or site visits with local fire or EMS departments.
  - F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a cocurricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.
3. **KNOWLEDGE AND SKILLS**
  - A. **The student demonstrates advanced skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:**
    1. Identify Exhibit advanced communication skills, including the ability to give and receive clear instructions during emergency scenarios.
    2. Solve complex problems using advanced critical thinking and decision-making techniques under high-pressure conditions.
    3. Demonstrate leadership by coordinating team efforts during mock emergency responses.
    4. Understand and apply ethical and legal responsibilities specific to emergency medical professions and operations of first responders.
    5. Identify and demonstrate positive work behaviors that enhance employability, including punctuality, professional appearance, and adherence to safety protocols.
  - B. **The student identifies career pathways. The student is expected to:**
    1. Design a career plan includes a clear pathway for advancement within emergency services, highlighting continuous education and specialization opportunities.
    2. Develop a career plan that includes necessary education, certifications, job skills, and experience.

3. Demonstrate effective interview skills for roles in emergency services, with a focus on entry-level positions.
  4. Demonstrate effective interview skills for roles.
- C. **The student develops technology and digital literacy skills. The student is expected to:**
1. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
  2. Demonstrate proficiency in using emerging and industry-standard technologies, including skills and applying creative techniques to create visually appealing products.
  3. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use.
- D. **The student integrates core academic skills into advanced emergency services practices. The student is expected to:**
1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
  2. Apply English skills by composing detailed incident reports and articulating firefighting strategies and objectives.
  3. Apply scientific principles relevant to emergency services, including understanding human anatomy and physiology, principles of physics in rescue operations, and the chemistry of fire and hazardous materials.
  4. Recognize the roles and responsibilities of government agencies, legal systems, and public policies that impact emergency services. This includes knowledge of laws, regulations, and ethical considerations that guide emergency response operations.
  5. Utilize mathematical skills, including measurement, ratios, and data interpretation, in emergency response scenarios.
- E. **The student demonstrates knowledge and skills for ensuring safety in emergency scenarios. The student is expected to:**
1. Understand and implement safety protocols to minimize risks during emergency operations.
  2. Demonstrate knowledge of personal protective equipment (PPE) and its proper use in emergency situations.
- F. **The student develops physical and mental resilience for emergency services careers. The student is expected to:**
1. Understand strategies for managing stress and preventing burnout in high-stress environments.
  2. Practice mindfulness and coping techniques to improve focus and emotional regulation during emergencies.

## Course Standards: Fire Fighter III

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1. **GENERAL REQUIREMENTS** This course is recommended for students in Grades 11-12.
2. **INTRODUCTION**
  - A. Career and Technical Education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
  - B. The Career Cluster is dedicated to preparing students for foundational careers in emergency medical services, firefighting, and public safety. This cluster emphasizes the skills needed to protect lives and property during emergencies. Professionals in this field work across diverse settings, including municipal fire departments, emergency medical services agencies, and disaster response teams.
  - C. The Program of Study offers students foundational knowledge in emergency response, safety protocols, and basic medical and firefighting skills. Students will gain hands-on experience through structured coursework and practical applications, enabling them to explore the essential functions of emergency services careers.
  - D. Fire Fighter III builds on the foundational knowledge of Emergency Services II, focusing on Fire Fighter I Certification and skills with competencies. Students will engage in advanced fire fighter assessment techniques, life support procedures, pharmacology, and emergency care practices for various medical and trauma situations. The course prepares students to sit for the Fire Fighter I Certification, they also can prepare for National Registry of Emergency Medical Technicians (NREMT) EMT certification exam.
  - E. Students will participate in at least two Career-Connected Education and Work-Based Learning experiences, including department rotations, live training exercises, and supervised simulations.
  - F. Students are encouraged to participate in extended learning experiences through aligned Career and Technical Student Organizations (CTSOs). CTSOs are a co-curricular requirement in the Carl D. Perkins Act, and alignment to CTSO activities is an expectation for CTE programs in the state of Maryland.
3. **KNOWLEDGE AND SKILLS**
  - A. **The student demonstrates advanced skills for an Emergency Medical Technician. The student is expected to:**
    1. Perform comprehensive patient assessments, including medical histories and physical examinations for patients of all ages.
    2. Administer emergency medical care, such as airway management, ventilation, oxygen therapy, and bleeding control.
    3. Understand and assist with the administration of medications, including understanding indications, contraindications, and side effects.
    4. Manage cardiac emergencies, including the use of automated external defibrillators (AEDs) and assisting with advanced cardiac life support procedures.
  - B. **The student develops advanced rescue and emergency response skills. The student is expected to:**
    1. Develop a career plan that includes the necessary education, certifications, job skills, and experience for specific roles in emergency services.

2. Create a professional resume and portfolio that reflect skills, projects, certifications, and recommendations.
  3. Demonstrate effective interview skills for roles in emergency services.
- C. **The student develops technology and digital literacy skills. The student is expected to:**
1. Use technology as a tool for research, organization, communication, and problem-solving.
  2. Use digital tools, including computers, mobile devices, collaboration platforms, and cloud services, to access, manage, and create information.
  3. Demonstrate proficiency in using emerging and industry-standard technologies, including skills and applying creative techniques to create visually appealing products.
  4. Understand ethical and legal considerations for technology use, including the principles of data protection, copyright, and responsible technology use. Adhere to ethical and legal considerations for technology use, including patient privacy laws (e.g., HIPAA) and secure data management.
- D. **The student integrates core academic skills into practice. The student is expected to:**
1. Demonstrate the use of clear communication techniques, both written and verbal, that are consistent with industry standards.
  2. Apply English concepts such as writing informative texts when documenting the design process and articulating goals.
  3. Demonstrate mathematical understanding for calculating water flow rates, hose lengths, and resource allocation during fire suppression operations.
  4. Apply scientific fire dynamics, material science, and heat transfer to understand fire behavior and implement effective suppression techniques.
- E. **The student demonstrates knowledge of health and wellness in emergency services careers. The student is expected to:**
1. Understand the physical and mental demands of firefighting and develop strategies for self-care and injury prevention.
  2. Participate in fitness training programs to maintain physical readiness for emergency response tasks.
  3. Recognize signs of stress, burnout, and critical incident stress, and apply coping mechanisms or seek support when necessary.
- F. **The student participates in extended learning opportunities to enhance career readiness. The student is expected to:**
1. Engage in apprenticeships with local fire departments or emergency services organizations.
  2. Engage in internships with local fire departments or emergency services organizations.
  3. Collaborate with emergency services professionals to gain firsthand insights into industry practices.
- G. **The student prepares for a work-based learning experience by demonstrating professional skills. The student is expected to:**
1. Develop a professional resume, portfolio, or skills showcase highlighting competencies.
  2. Review and prepare for the Fire Fighter I, Fire Fighter II certification exam, covering all required cognitive and psychomotor skills.
  3. Practice interview skills and demonstrate knowledge of workplace expectations in settings.

## Course Standards: Career Connected Learning I and II

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**Career connected learning is an educational approach that integrates classroom instruction with real-world experiences, enabling high school students to explore potential careers and develop relevant skills before graduation. By participating in work-based learning opportunities—such as apprenticeships, internships, capstone projects, and school-based enterprises—students apply academic concepts in authentic settings, gain practical industry knowledge, and build professional networks. This hands-on engagement helps students connect their studies to future career paths, strengthens their problem-solving and communication skills, and supports a smoother transition into college, vocational programs, or the workforce.**

All Career and Technical Education Programs of Study include aspects of work-based learning, and almost all of the programs include two Career Connected Learning (CCL) courses. Below are the course descriptions for CCL I and CCL II. [The CCL standards can be found via this link:](#)