

FIREFIGHTING TECHNOLOGY

INDUSTRY SECTOR | Public Services PATHWAY | Emergency Response

COURSE ESSENTIAL QUESTION:

COURSE OVERVIEW:

Students will receive a glimpse into the fire department and emergency services careers through active fire service training, both physical and academic; students will work with active and retired instructors using actual fire tools and equipment, putting on real fire turnout uniforms and training on a dedicated ROP Fire Engine. Students will learn from visits with local fire companies and through rigorous physical and mental training about public safety and being valued as a hero in society.

INFORMATION:

- A. **Pre-requisite:** 16 years old or a 11th/ 12th grader
- B. **Abilities Required:** [Click here to enter text.](#)
- C. **Dress Requirement and Grooming:** Must dress code /Industry Standard
- D. **Students must master 80% of the certificate competencies to receive a certificate.**
- E. **Fee:** None
- F. **Course Length:** 270 hours
- G. **Textbook:** [Click here to enter text.](#)
- H. **UC a-g Approved:** No
- I. **Industry Certification:** Yes
- J. **Sequencing to Include a Capstone:** Yes
- K. **Community College Articulation:** Yes
- L. **Common Core Alignment:** Yes
- M. **Community Classroom:** No
- N. **Career Technical Student Organization:** No
- O. **Work- Based Learning:** No

THEME: UNIT 1. "What Am I Getting Into?"

ENGAGING TITLE:

ESSENTIAL QUESTION: *Enter Essential Question*

INSTRUCTIONAL HOURS: *Enter total course hours spent on section*

Common Core Unit Objective

Enter Common Core Unit Objectives

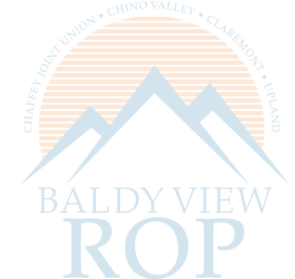
Key Assignments

Enter Key Assignments



Anchor Standards

- 3.0 **Career Planning and Management:** Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.
- 3.1 Identify personal interests, aptitudes, information, and skills necessary for informed career decision making.
 - 3.2 Evaluate personal character traits such as trust, respect, and responsibility and understand the impact they can have on career success.
 - 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.
- 7.0 **Responsibility and Flexibility:** Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Public Services sector workplace environment and community settings.
- 7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
 - 7.7 Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession.
- 9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Cal-HOSA and SkillsUSA career technical student organizations.
- 9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision making skills as applied in groups, teams, and career technical student organization activities.
 - 9.4 Explain how professional associations and organizations and associated leadership development and competitive career development activities enhance academic preparation, promote career choices, and contribute to employment opportunities.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Public Services anchor standards, pathway standards, and performance indicators in classroom, laboratory and workplace settings, and through the Cal-HOSA and SkillsUSA career technical student organizations.
- 11.2 Demonstrate proficiency in a career technical pathway that leads to certification, licensure, and/or continued learning at the postsecondary level.



Pathway Standards

- B3.0 Demonstrate necessary leadership qualities, team concepts, and personal integrity for emergency response personnel.
 - B3.2 Understand the characteristics and benefits of teamwork, leadership, and citizenship in community and workplace settings.
- B5.0 Develop the level of nutrition, fitness, strength, agility, and psychological health and well- being required for safely working in emergency response career fields.
 - B5.2 Recognize the different physical strength and agility assessments required for entrance into emergency response employment.
- B8.0 Understand the fundamental mission of fire services occupations and the responsibility to preserve life and property, promote public safety, and reduce fire deaths.
 - B8.1 Understand the history, organization, and operation of fire services.
 - B8.3 Explain the fundamentals and scientific principles of fire behavior, combustible materials, extinguishing agents, hazardous and toxic materials, forms of energy, and fire prevention/suppression techniques for all types of fires and conditions.

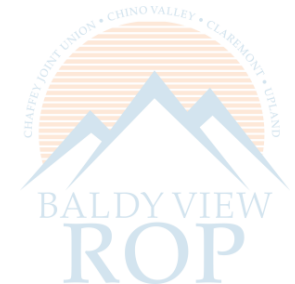
Common Core Standards

Enter Common Core Standards

RESOURCES:

Resources

- Chapter 1
- Chapter 2
- Chapter 3
- Chapter 4



THEME: UNIT 2. Chemistry & Physics Of Fire

ENGAGING TITLE:

ESSENTIAL QUESTION: *Enter Essential Question*

INSTRUCTIONAL HOURS: *Enter total course hours spent on section*

Common Core Unit Objective

Enter Common Core Unit Objectives

Key Assignments

Enter Key Assignments

Anchor Standards

- 4.0 **Technology:** Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Public Services sector workplace environment.
- 4.3 Use information and communication technologies to synthesize, summarize, compare, and contrast information from multiple sources.
- 5.0 **Problem Solving and Critical Thinking:** Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Public Services sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.
- 5.3 Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment.
- 6.0 **Health and Safety:** Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Public Services sector workplace environment.
- 6.1 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions.
- 6.6 Maintain a safe and healthful working environment.
- 6.7 Be informed of laws/acts pertaining to the Occupational Safety and Health Administration (OSHA).
- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all pathways in the Public Services sector, following procedures when carrying out experiments or performing technical tasks.
- 10.1 Interpret and explain terminology and practices specific to the Public Services sector.



Pathway Standards

Enter Pathway Standards

Common Core Standards

Enter Common Core Standards

RESOURCES:

Resources

- Chapter 4



THEME: UNIT 2. Systems & Support

ENGAGING TITLE:

ESSENTIAL QUESTION: *Enter Essential Question*

INSTRUCTIONAL HOURS: *Enter total course hours spent on section*

Common Core Unit Objective

Enter Common Core Unit Objective

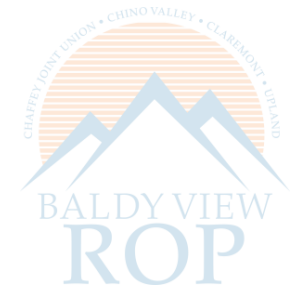
Key Assignments

Enter Key Assignments



Anchor Standards

- 2.0 **Communications:** Acquire and accurately use Public Services sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.
- 2.4 Demonstrate elements of written and electronic communication such as accurate spelling, grammar, and format.
- 3.0 **Career Planning and Management:** Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.
- 3.6 Recognize the role and function of professional organizations, industry associations, and organized labor in a productive society.
- 3.9 Develop a career plan that reflects career interests, pathways, and postsecondary options.
- 4.0 **Technology:** Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Public Services sector workplace environment.
- 4.2 Employ Web-based communications responsibly and effectively to explore complex systems and issues.
- 7.0 **Responsibility and Flexibility:** Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Public Services sector workplace environment and community settings.
- 7.8 Explore issues of global significance and document the impact on the Public Services sector.
- 9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Cal-HOSA and SkillsUSA career technical student organizations.
- 9.4 Explain how professional associations and organizations and associated leadership development and competitive career development activities enhance academic preparation, promote career choices, and contribute to employment opportunities.
- 10.0 **Technical Knowledge and Skill:** Apply essential technical knowledge and skills common to all pathways in the Public Services sector, following procedures when carrying out experiments or performing technical tasks.
- 10.1 Interpret and explain terminology and practices specific to the Public Services sector.



Pathway Standards

- B3.0 Demonstrate necessary leadership qualities, team concepts, and personal integrity for emergency response personnel.
- B3.8 Use and maintain a variety of communication equipment, understanding the importance of using current and up-to-date technology and communication equipment.
- B8.0 Understand the fundamental mission of fire services occupations and the responsibility to preserve life and property, promote public safety, and reduce fire deaths.
- B8.4 Demonstrate the operation of fire protection equipment and systems.
- B10.0 Analyze and describe the functions and responsibilities of federal, state, and local wildland services.
- B10.2 Explain the role of fire personnel in wildland fires, structure fires, auto accidents, medical aid, swift-water rescue, civil disturbances, search and rescue operations, hazardous material spills, train wrecks, floods, and earthquakes.

Common Core Standards

- RLST 11-12.8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

RESOURCES:

Resources

- Chapter 5
- Chapter 6
- Chapter 7
- Chapter 8



THEME: UNIT 3. Training

ENGAGING TITLE:

ESSENTIAL QUESTION: *Enter Essential Question*

INSTRUCTIONAL HOURS: *Enter total course hours spent on section*

Common Core Unit Objective

Enter Common Core Unit Objectives

Key Assignments

Enter Key Assignments



Anchor Standards

- 2.0 **Communications:** Acquire and accurately use Public Services sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.
- 2.1 Recognize the elements of communication using a sender–receiver model.
- 6.0 **Health and Safety:** Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Public Services sector workplace environment.
- 6.3 Use health and safety practices for storing, cleaning, and maintaining tools, equipment, and supplies.
- 6.4 Practice personal safety when lifting, bending, or moving equipment and supplies. **3PS** | California Career Technical Education Model Curriculum Standards
- 6.5 Demonstrate how to prevent and respond to work-related accidents or injuries; this includes demonstrating an understanding of ergonomics.
- 7.0 **Responsibility and Flexibility:** Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Public Services sector workplace environment and community settings.
- 7.3 Understand the need to adapt to changing and varied roles and responsibilities.
- 8.0 **Ethics and Legal Responsibilities:** Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.
- 8.5 Analyze organizational culture and practices within the workplace environment.
- 9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Cal-HOSA and SkillsUSA career technical student organizations
- 9.7 Participate in interactive teamwork to solve real Public Services sector issues and problems.
- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all pathways in the Public Services sector, following procedures when carrying out experiments or performing technical tasks.
- 10.2 Comply with the rules, regulations, and expectations of all aspects of the Public Services sector.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Public Services anchor standards, pathway standards, and performance indicators in classroom, laboratory and workplace settings, and through the Cal-HOSA and SkillsUSA career technical student organizations.
- 11.1 Utilize work-based/workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Public Services sector program of study.

Pathway Standards

- B4.0 Execute safety procedures and protocols associated with local, state, and federal regulations in order to effectively and safely conduct duties within fire and emergency services.
 - B4.2 Know and use the appropriate personal protective equipment (PPE) required for emergency services duties.
 - B4.4 Understand and adhere to comprehensive and systematic risk management strategies to reduce injury and fatalities for self, team, and community.
- B8.0 Understand the fundamental mission of fire services occupations and the responsibility to preserve life and property, promote public safety, and reduce fire deaths.
 - B8.8 Participate in public education aimed at reducing loss of life and property, through programs and activities on fire prevention and safety as well as other injury-prevention education.

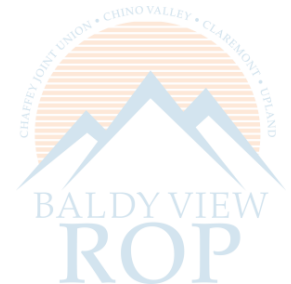
Common Core Standards

Enter Common Core Standards

RESOURCES:

Resources

- Chapter 9



THEME: UNIT 5. Codes & Prevention

ENGAGING TITLE:

ESSENTIAL QUESTION: *Enter Essential Question*

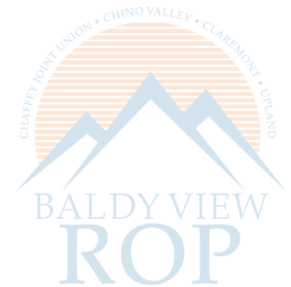
INSTRUCTIONAL HOURS: *Enter total course hours spent on section*

Common Core Unit Objective

Enter Common Core Unit Objectives

Key Assignments

Enter Key Assignments



Anchor Standards

- 3.0 **Career Planning and Management:** Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.
 - 3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning.
- 6.0 **Health and Safety:** Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Public Services sector workplace environment.
 - 6.2 Interpret policies, procedures, and regulations for the workplace environment, including employer and employee responsibilities.
 - 6.7 Be informed of laws/acts pertaining to the Occupational Safety and Health Administration (OSHA).
- 8.0 **Ethics and Legal Responsibilities:** Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.
 - 8.1 Access, analyze, and implement quality assurance standards of practice.
 - 8.2 Identify local, district, state, and federal regulatory agencies, entities, laws, and regulations related to the Public Services industry sector.
 - 8.3 Demonstrate ethical and legal practices consistent with Public Services sector workplace standards.
 - 8.7 Conform to rules and regulations regarding sharing of confidential information, as determined by Public Services sector laws and practices.
- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all pathways in the Public Services sector, following procedures when carrying out experiments or performing technical tasks.
 - 10.2 Comply with the rules, regulations, and expectations of all aspects of the Public Services sector.

Pathway Standards

- B10.0 Analyze and describe the functions and responsibilities of federal, state, and local wildland services.
- B10.3 Describe fire prevention and planning procedures to save wildland structures during a forest fire.

Common Core Standards

Enter Common Core Standards



RESOURCES:

Resources

- Chapter 10
- Chapter 11
- Chapter 12



THEME: UNIT 4. Emergency Management & Operation

ENGAGING TITLE:

ESSENTIAL QUESTION: *Enter Essential Question*

INSTRUCTIONAL HOURS: *Enter total course hours spent on section*

Common Core Unit Objective

Enter Common Core Unit Objectives

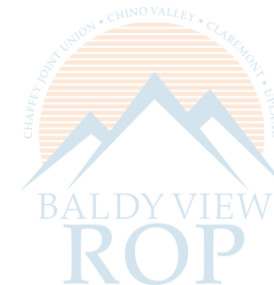
Key Assignments

Enter Key Assignments



Anchor Standards

- 2.0 **Communications:** Acquire and accurately use Public Services sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.
- 2.2 Identify barriers to accurate and appropriate communication.
- 2.3 Interpret verbal and nonverbal communications and respond appropriately.
- 4.0 **Technology:** Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Public Services sector workplace environment.
- 4.6 Assess the value of various information and communication technologies to interact with constituent populations as part of a search of the current literature or in relation to the information task.
- 5.0 **Problem Solving and Critical Thinking:** Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Public Services sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.
- 5.2 Solve predictable and unpredictable work-related problems using various types of reasoning (inductive, deductive) as appropriate.
- 7.0 **Responsibility and Flexibility:** Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Public Services sector workplace environment and community settings.
- 7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
- 9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Cal-HOSA and SkillsUSA career technical student organizations.
- 9.1 Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
- 9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision making skills as applied in groups, teams, and career technical student organization activities.
- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all pathways in the Public Services sector, following procedures when carrying out experiments or performing technical tasks.
- 10.1 Interpret and explain terminology and practices specific to the Public Services sector.



Pathway Standards

- B2.0 Understand the processes by which emergency management organizations and emergency managers exert command and control over an emergency response and recovery operation.
 - B2.2 Understand the importance of an organized Command and Control System to provide for interoperability, efficiency, and effectiveness.
 - B2.5 Describe the principles and responsibilities of the Incident Command System (ICS) and the National Incident Management System (NIMS).
- B3.0 Demonstrate necessary leadership qualities, team concepts, and personal integrity for emergency response personnel.
 - B3.9 Practice verbal and nonverbal emergency terminology and communication techniques to be used when interacting with emergency response personnel in a variety of emergency situations.
- B6.0 Understand the roles of federal, state, and local agencies in catastrophic event planning, preparation, response, and recovery.
 - B6.2 Analyze the history and outcomes of catastrophic events and the appropriate emergency responses.

Common Core Standards

Enter Common Core Standards

RESOURCES:

Resources

- Chapter 13
- Chapter 14

