



Regional Occupational Program

Wildland Fire and Emergency Medical Response 2025-2026

COURSE DESCRIPTION

This introductory course provides foundational knowledge and skills leading to certifications in Emergency Medical Responding and S-190 Wildland Fire Behavior and S-130 Firefighting Training. Instruction in systems and structures of surface anatomy and key principles of physiology are addressed. Students will gain practical experience in assessing patients, protocols and procedures for transporting patients and medical or behavioral emergencies. Critical knowledge of wildland fire behavior and fire science are covered. Practical hands-on experience with fire apparatus, tools, and personal protective equipment (PPEs) simulations of an Emergency Medical Response team and Wildland Firefighting team. Instruction covers engine and pump operations, backfiring methods, map and compass use, fire line construction, fire prevention and investigation, and basic firefighting and fire management. The curriculum in this course provides knowledge and skills to become successful in post-secondary fire or public service courses, Emergency Medical Technician (EMT) certifications, Associate’s Degree in Fire Science or Fire Technology, fire academy acceptance, and Bachelor of Science Degree in Fire Administration or Fire Science from a four-year college or university.

Course Information

Course Length: 1 Year
 Prerequisite: None
 Course Level: Concentrator
 UC: No
 Articulated: No
 Industry Cert.: First Aide, CPR, EMR
 Industry Sector: Public Services
 Pathway: Emergency Response Pathway
 CALPADS: 8421

O*Net SOC Codes

53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Response
 33-9092 Lifeguard, Ski Patrol, Recreational, and Protective Services
 33-2022 Forest Fire Inspectors and Prevention Specialists
 29.2042 Emergency Medical Technicians

Legend

CTE - PS CTE Pathway Standards
 CRP Career Ready Practices
 CTE - AS CTE Anchor Standards
 CCSS Common Core State Standards
 ISTE International Society for Technology in Education

*Includes updates from 24/25 Public Services Advisory
[Advisory Minutes](#)*

Wildland Fire and Emergency First Response

Course Orientation

- a. Discuss objectives for this course, including competencies, teacher expectations, classroom policies, and procedures.
- b. Identify and discuss the acquisition of transferable skills (communication, collaboration, creativity, and critical thinking) and their importance to being college and career ready and for future personal and professional success.
- c. Review objectives, competencies, and course syllabus.
- d. Discuss student and teacher expectations, including behavior, class rules, appropriate dress, pre-course knowledge, and grading policies, including enrollment and attendance requirements and procedures, and classroom/school safety and disaster procedures.
- e. Discuss next steps in course sequence related to the career pathway, the need for reinforcement of basic skills, transferrable skills, and postsecondary and career options.
- f. Discuss the Big Six: Career Ready Essentials and the Standards for Career Ready Practice as they relate to this course, all aspects of the industry sector, and being college and career ready.

Big Six: Career Ready Essentials

1. Effective Communication	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ol style="list-style-type: none"> a. Demonstrate effective verbal communication and conflict resolution skills. b. Use the writing process to develop written communication with the appropriate tone, organization, and format for the identified audience. c. Explain the effect of interpersonal skills on one's ability to communicate effectively and develop relationships. d. Describe the impact of ineffective communication on business relationships. e. Analyze the impact of vocabulary, body language, and tone on verbal communication. f. Demonstrate active listening skills. g. Accurately interpret industry-specific written communication. h. Model responsible and effective use of various communication technologies. i. Identify valid and reliable digital reference and resource materials. j. Gather information from multiple digital sources to compare and contrast, synthesize, and summarize. k. Identify and use appropriate communication and collaboration technologies. l. Utilize technology to problem solve, accomplish tasks, and to produce or publish products. 		<u>1</u> <u>2</u> <u>11</u>	<u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>7</u> <u>8</u> <u>9</u> <u>10</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>SLS</u> <u>11-12.2</u> <u>9-10</u> <u>11-12.1</u> <u>11-</u> <u>12.1d</u> <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>	<u>1b,c</u> <u>2c</u> <u>3b,c</u> <u>5c</u> <u>6b,c,d</u>
2. Collaboration, Creativity, and Critical Thinking	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ol style="list-style-type: none"> a. Demonstrate critical thinking skills for a variety of purposes and in different settings. b. Collaborate to reach consensus on an identical objective through the sharing of knowledge, tasks, and learning. c. Discuss the importance of the critical thinking process to real-world applications. d. Evaluate the impact of creative thinking on problem solving and innovation in real-world applications. 		<u>2</u> <u>4</u> <u>5</u> <u>7</u> <u>9</u> <u>10</u>	<u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>7</u>	<u>LS</u> <u>9-10</u> <u>11- 12.6</u> <u>SLS</u> <u>9-10</u>	<u>1c</u> <u>3c,d</u> <u>4a-d</u> <u>5c,d</u> <u>6c</u> <u>7b,c,d</u>

<ul style="list-style-type: none"> e. Compile work that demonstrates the process used to (elaborate, refine, analyze) evaluate original ideas and maximize creative efforts. f. Apply divergent and convergent thinking to the development of an original idea or solution. g. Examine real-world limits to adopting ideas. h. Demonstrate creative thinking (preparation, insight, evaluation, elaboration, and communication) to create a new idea or concept. i. Assume shared responsibility for collaborative work, and value the individual contributions made by each team member. j. Evaluate evidence, arguments, claims, and beliefs to identify connections. k. Identify bias, prejudice, propaganda, self-deception, distortion, and misinformation. l. Produce intellectual, informational, or material products that serve an authentic purpose. m. Work effectively and respectfully with those from diverse backgrounds or cultures. n. Demonstrate respect, trust, commitment, and the ability to compromise in collaborative projects. 		<u>11</u>	<u>8</u> <u>9</u> <u>11</u>	<u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u> <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>	
3. Leaders and Teams: Roles and Responsibilities	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Determine the individual and team members' roles and responsibilities. b. Demonstrate leadership skills and qualities (i.e., reliability, negotiation skills, initiative, positive reinforcement, recognition of others' efforts, problem-solving skills, conflict resolution, and delegation). c. Explain the importance of technical, social, and communication skills to team success. d. Compare and contrast leadership styles and their effectiveness in various situations. e. Organize and delegate responsibilities in a team setting to encourage ideas, perspectives, and contributions from all team members. f. Develop a strong sense of team identity by brainstorming solutions, volunteering, assisting others, practicing respect and courtesy, and taking initiative. g. Examine situations in which a follower becomes the leader. h. Describe twenty-first-century skills required across all occupations. i. Identify and discuss the characteristics of a successful team (i.e., leadership, cooperation, and effective decision-making). j. Leverage social and cultural differences to increase innovation and quality of work. 		<u>7</u> <u>8</u> <u>9</u>	<u>3</u> <u>7</u> <u>8</u> <u>9</u> <u>11</u>	<u>SLS</u> <u>11-12.2</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>WS</u> <u>11-12.6</u>	<u>7a,c</u>
4. Legal, Ethical, and Environmental Considerations	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate industry specific ethical and legal practices. b. Identify eco-friendly industry specific practices and resources. c. Identify local, state, and federal regulatory agencies, entities, laws, and regulations. d. Identify discrimination based on race, nationality, religion, gender, age, disability, or sexual orientation. e. Summarize the ethical and legal implications of workplace discrimination and harassment. 		<u>5</u> <u>7</u> <u>8</u> <u>12</u>	<u>3</u> <u>5</u> <u>7</u> <u>8</u> <u>9</u> <u>11</u>	<u>WS</u> <u>11-12.6</u> <u>11-12.7</u> <u>SLS</u> <u>9-10</u>	<u>2a,b</u> <u>3a,b</u> <u>5c</u> <u>6c</u>

<ul style="list-style-type: none"> f. Explain the concept of corporate citizenship. g. Examine an employer's role in protecting the health and welfare of employees, the community, and the environment. h. Analyze current environmental laws and regulations and their impact on industry. i. Compare and contrast both society's and industry's impact on the environment. 				11-12.1 11-12.1d 11-12.2	
5. Personal Growth and Career Planning	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate continued personal development and growth. b. Develop and manage a personal growth and career plan. c. Explain the relationship between sound financial habits and financial security. d. Create and manage a personal financial plan. e. Demonstrate initiative in achieving personal and professional goals. f. Apply time management strategies to meet deadlines. g. Demonstrate a growth mindset through flexibility and a positive attitude. h. Select and demonstrate appropriate job-search and retention techniques. i. Demonstrate strategies to prepare for employment. j. Demonstrate interpersonal skills appropriate for the workplace. k. Elaborate on the importance of perseverance to personal and professional success. l. Discover personal career interests, aptitudes, and skills. 		1 2 3 4 6	2 3 4 7 8 11	LS 9-10 11-12.6 SLS 9-10 11-12.1 11-12.1d 11-12.2 WS 11-12.6	1a 3a,c 4d 6a,d 7b
6. Workplace Safety and Personal Wellness	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate proper industry specific safe work practices to prevent injury or illness. b. Assess the potential impact of goal setting on personal and professional success. c. Describe the role of security and emergency procedures in workplace safety. d. Describe the effect of preventative measures on emergencies in the workplace. e. Identify and describe the causes, prevention, and treatment of common accidents. f. Identify local, state, and federal agencies that regulate workplace safety. g. Explain the role of the California Occupational Safety and Health Administration (Cal-OSHA) and the Environmental Protection Agency (EPA). h. Discuss the basics of system operations. i. Demonstrate the proper use of personal protective equipment (PPE). j. Explain the purpose of and accurately interpret a Safety Data Sheet (SDS). k. Identify hazardous materials and chemicals. l. Demonstrate proper procedures to respond to work-related accidents and injuries. m. Describe how ergonomics, housekeeping, and maintenance are related to accidents and injuries. n. Demonstrate cyber ethics, cyber safety, and cybersecurity. o. Assess the potential impact of preventative physical and mental health measures on workplace safety. 		2 5 6 8 12	2 5 6 7 8 10 11	LS 9-10 11-12.6 WS 11-12.7 11-12.6 SLS 9-10 11-12.1 11-12.1d	1a,d 2a,d 5b

Wildland Fire and Emergency First Response Units of Instruction

7. Introduction to EMS/Fire Systems	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of the various components of an Emergency Medical System (EMS) and Wildland Fire Incident Command Systems (ICS) and the levels of training required.</p> <p>b. Identify the elements of the EMS/Fire system and discuss the levels of training and licensure.</p> <p>c. Describe the public health resources and how it applies to the EMS responders.</p> <p>d. Discuss the historical background and the development of Fire Services and EMS systems.</p> <p>e. Identify current and emerging technology as it relates to health and Fire/EMS systems.</p>	B1.1 B1.2 B2.5 B8.1	1 2 11	1 2 11	LS 9-10 11-12.6	
8. On Scene Safety and Precautions	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of occupational health and safety issues related to on-scene response for patients, families, and Emergency Medical Responders.</p> <p>b. Demonstrate knowledge of on-scene assessments and the process and procedures required to ensure empathic and careful delivery of service for critically injured or dying patients.</p> <p>c. Discuss the emotional aspects of emergency care for patients, families, bystanders, and EMRs.</p> <p>d. Identify Signs and Symptoms of stress and explain actions the EMR can take to reduce or alleviate stress at on-scene incidents.</p> <p>e. Describe Universal Precautions for preventing infectious diseases transmission from air and blood borne pathogens.</p> <p>f. Describe common health and safety hazards commonly encountered by Fire and EMS.</p> <p>g. Demonstrate proper hand washing. Demonstrate proper gloving and glove removal.</p> <p>h. Explain the proper steps to take if the EMR/Fire clothing comes in contact with the patient's bodily fluids.</p> <p>i. Identify and describe the function of safety equipment for EMR and Fire Personnel use for protection and safety.</p> <p>j. Explain how to establish situational awareness, identifying hazards, and assessing personal, team, or environmental risks.</p> <p>k. Describe the hazardous materials labeling systems and explain definitions associated with various hazardous materials.</p>	B4.2 B7.2 B8.4 B9.0 B9.6 B9.7	1 2 5 6 11	1 2 5 6 11	LS 9-10 11-12.6 WS 11-12.7 RSTS 9-10 11-12.4	
9. EMR Principles of Emergency Care	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of the basic medical, legal, and ethical principles and responsibilities of Emergency Medical Responders.</p> <p>b. Discuss the 'Good Samaritan' laws as they relate to emergency medical response.</p> <p>c. Define 'duty to act' scope of practice, as it relates to EMRs.</p> <p>d. Explain the steps to be taken in the preservation of different types of crime scene evidence. Discuss the special situations and reportable events.</p> <p>e. Discuss the importance of proper and accurate documentation and report writing.</p>	B3.3 B3.6 B3.7	1 2 5 8 11	1 2 5 8 11	LS 9-10 11-12.6 WS 11-12.7 SLS	

<p>f. Explain the legal aspects and types of consent necessary prior to providing emergency medical services.</p> <p>g. Discuss different types of legal documents and issues relating to patient care, e.g., advance directives, consent, confidentiality, negligence, and abandonment.</p>				<p>11-12.1d</p>	
<p>10. Anatomy and Physiology of the Human Body</p>	<p>CTE - PS</p>	<p>CRP</p>	<p>CTE - AS</p>	<p>CCSS</p>	<p>ISTE</p>
<p>a. Demonstrate knowledge of basic anatomical and physiological structures and systems.</p> <p>b. Identify, locate, and describe the function of the primary systems and structure of surface anatomy; identify anatomical body planes, cavities, and the organs in each plane</p> <p>c. Locate landmarks of the human skull, facial, neck, abdomen, and extremities. Identify vital centers of the brainstem and their functions.</p> <p>d. Locate and identify functions of eye and ear structures.</p> <p>e. Identify structures and describe the basic functions of the nervous system, e.g., cerebral, spinal cord, peripheral and autonomic nerves. Identify primary functions of the cerebral lobes.</p> <p>f. Identify and explain the basic structure and functions of the circulatory system, e.g., heart, blood flow, atria, vena cava, arteries, veins, and capillaries.</p> <p>g. Identify and explain the basic structure and functions of the circulatory system, e.g., heart, blood flow, atria, vena cava, arteries, veins, and capillaries.</p> <p>h. Identify signs and symptoms of respiratory distress or failure; identify signs of adequate oxygenation.</p>	<p>B9.1</p>	<p>1 2 5 11</p>	<p>1 2 5 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7</p>	
<p>11. Lifting and Moving Patients</p>	<p>CTE - PS</p>	<p>CRP</p>	<p>CTE - AS</p>	<p>CCSS</p>	<p>ISTE</p>
<p>a. Demonstrate knowledge of the methods and protocols used when moving and transporting patients while awaiting the arrival of EMS support for a higher level of care.</p> <p>b. Describe the principles of lifting, moving, and positioning patients.</p> <p>c. Identify and describe the various methods of moving patients e.g., emergency, standard, 'carries' for non-ambulatory patients. Demonstrate the process used for 'walking assists' for ambulatory patients.</p> <p>d. Identify and describe the function of equipment commonly used in moving and transporting patients.</p> <p>e. Discuss proper patient positioning and restraining techniques.</p> <p>f. Identify procedures for moving patients with suspected spinal injuries and describe the steps in each procedure.</p>	<p>B8.7 B9.3</p>	<p>1 2 5 11</p>	<p>1 2 5 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7</p>	
<p>12. Patient Assessment</p>	<p>CTE - PS</p>	<p>CRP</p>	<p>CTE - AS</p>	<p>CCSS</p>	<p>ISTE</p>
<p>a. Demonstrate knowledge of the processes, procedures, and strategies in patient assessment to identify and manage immediate life threats and injuries within the scope of practice of the Emergency Medical Responder.</p>	<p>B3.4 B9.8 B9.10</p>	<p>1 2 5</p>	<p>1 2 5</p>	<p>LS 9-10 11-12.6</p>	

<ul style="list-style-type: none"> b. Identify the purpose and elements of primary and secondary patient assessment. Identify the differences between performing an assessment on a trauma patient and on a medical patient. c. Discuss the importance of obtaining a patient’s medical history. d. Describe the steps and functions of the assessment process, e.g., general impression, responsiveness, assessing respiration, and updating EMS units. e. Explain the differences in checking airway, breathing, and circulation based on the age of the patient: infant, child, and adult. f. List the information that should be addressed in the hand-off report about the patient’s condition. g. Describe the components of an on-going assessment. 		<u>11</u>	<u>11</u>	<u>WS</u> <u>11-12.7</u>	
13. CPR and the Anatomy of the Circulatory System	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of the human anatomical structures and functions of the circulatory system. b. Demonstrate proper rescue CPR on adults, children, and infants. c. Describe the anatomy and function of the circulatory system. d. List reasons for heart failure and explain the links in the cardiac chain of survival. e. Describe the components of CPR, demonstrate CPR, and explain when to start and stop CPR. f. Demonstrate the steps for one-rescuer and two-rescuer adult CPR. g. Describe the process and demonstrate the steps for correctly using an Automated External Defibrillator (AED). h. Explain the complications and legal implications for performing CPR. 	<u>B4.6</u> <u>B9.1</u> <u>B9.3</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
14. Illness and Injuries: Medical Emergencies	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of recognizing and managing life threats based on assessment findings while awaiting additional response. b. Explain the causes, symptoms, and treatment for patients with altered mental status, seizures, loss of consciousness, and heat and cold exposure. c. Explain the major causes, signs, symptoms, and initial medical treatment for: angina pectoris, heart attack, congestive heart failure, dyspnea, stroke, insulin shock, diabetic coma, abdominal pain, and a dialysis patient. d. Describe the signs symptoms and treatment for patients who have ingested, inhaled, injected, or absorbed poisons. e. Describe the signs, symptoms, and treatment of a drug overdose caused by uppers, downers, hallucinogens, or abused inhalants. 	<u>B9.0</u> <u>B9.3</u> <u>B9.8</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
15. Behavioral Emergencies	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge on how to manage life threats based on assessment findings of a patient with a medical emergency awaiting additional EMS response. 	<u>B9.7</u> <u>B9.8</u>	<u>1</u> <u>2</u>	<u>1</u> <u>2</u>	<u>LS</u> <u>9-10</u>	

<ul style="list-style-type: none"> b. Describe the principles and procedures for assessing patients experiencing a behavioral emergency. c. Discuss safety precautions that should be taken when dealing with a potentially violent patient. d. Describe signs and symptoms of abuse. e. Discuss the medical and legal considerations related to healing with behavioral emergencies. f. Define and discuss the importance of a critical stress incident briefing. 		<u>6</u> <u>11</u> <u>12</u>	<u>6</u> <u>11</u>	<u>11-12.6</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
16. Bleeding, Shock, and Soft-Tissues	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of assessment skills to recognize and care for patients suffering from shock, bleeding, and soft-tissue injuries. b. Describe the function and relationship between the parts of the circulatory system, e.g., heart, blood vessels, and blood. Differentiate between arterial, venous, and capillary bleeding. Explain emergency care for external bleeding. c. Describe signs, symptoms, possible complications, and emergency medical care for patients with thermal, respiratory, chemical, and electrical burns. d. Discuss emergency medical treatment for patients with different types of wounds, e.g., face and scalp, eye and nose injuries, head and neck wounds, chest and back wounds, impaled objects, closed abdominal wounds, genital wounds, extremity wounds, gunshot wounds, and bites. e. Explain the signs, symptoms, and treatment for shock. 	<u>B3.4</u> <u>B9.8</u> <u>B9.10</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
17. Injuries to Muscles and Bones	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of the assessment and management of injuries to the upper and lower extremities, the head, spinal cord, and the chest while awaiting EMS response. b. Describe the mechanics of musculoskeletal injuries. c. Define and describe treatment for fractures, dislocations, and sprains. d. Describe the signs, symptoms, and emergency treatment for head, facial, spine, fractured ribs, flail chest, and penetrating chest wounds. e. Evaluate the circulation and sensation of a patient with an extremity injury. Describe the general principles of splinting. f. Describe how to best remove a helmet and helmet mask. g. Explain body substance isolation techniques when treating a patient with musculoskeletal injuries. 	<u>B3.4</u> <u>B9.8</u> <u>B9.10</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
18. Childbirth	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge concerning the anatomical and physiological changes that occur during pregnancy and how to manage a normal delivery process while waiting for an additional emergency response. 		<u>1</u> <u>2</u> <u>5</u>	<u>1</u> <u>2</u> <u>5</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>	

<ul style="list-style-type: none"> b. Describe the three stages of labor and delivery. Discuss the possible complications that can occur during childbirth. c. Explain the importance of standard precautions and body substance isolation in childbirth situations. d. Explain the steps to be taken to assist a pregnant woman in childbirth and care for a newborn infant. e. Demonstrate how to resuscitate a newborn infant. 		<u>6</u> <u>11</u>	<u>6</u> <u>11</u>	<u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
19. Infant and Children – Pediatric Emergencies	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of the anatomical and physiological differences between infants and children and describe age-appropriate assessment and treatment while awaiting additional emergency response. b. Describe the signs, symptoms, and treatment for shock in pediatric patients. c. Explain how to take vital signs on infants and children, e.g., pulse rate, respiratory rate, and body temperature. d. Demonstrate proper respiratory skills for infants and children, e.g., opening airways, suctioning, performing basic life support, and inserting an oral airway device. Explain the process for partial and complete airway obstruction. e. Describe the signs, symptoms, and treatment for pediatric injury or illness, e.g., altered mental state, high fever, asthma, croup, drowning, poisoning, seizures, and Sudden Infant Death Syndrome (SIDS). f. Describe the protocol for children displaying signs of child abuse or sexual assault. g. Discuss the child restraint laws and describe pediatric trauma caused by the incorrect or non-use of restraints. 	<u>B3.4</u> <u>B9.8</u> <u>B9.10</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
20. EMS Operations: The Role of the Emergency Medical Responder	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of the immediate basic life support and interim medical care for a sick, injured, or compromised person until advanced medical care is provided or until transportation is initiated. b. Identify the medical and non-medical equipment, and their functions, needed to respond to a call. c. Discuss the role of a medical responder in extrication. Describe the extrication procedures a medical responder can perform. d. Describe the START triage system. e. Discuss the role of a medical responder and the precautionary steps taken when hazardous materials are present. f. Demonstrate knowledge of the emergency medical responder role in a multiple-casualty incident, the purpose of triage and the steps involved in the START triage system. 	<u>B3.8</u> <u>B7.4</u> <u>B8.7</u> <u>B9.0</u> <u>B9.3</u> <u>B9.4</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	

<p>g. Explain how to manage an incident scene as the first responder, using emergency response skills appropriate to training and certification.</p> <p>h. Discuss the importance of following instructions for immediate care procedures as transmitted by an emergency medical dispatcher.</p>					
<p>21. Supplemental Skills: Special Situations</p>	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of the procedures and protocols used when dealing with special-needs patients or when assisting with a special rescue situation.</p> <p>b. Demonstrate the approach best used when dealing with patients who are elderly, chronic-care patients, hearing or visually impaired, non-English speakers, developmentally disabled, or who display disruptive or aggressive behavior.</p> <p>c. Describe the role of the first responder when responding to special rescue situations such as water, ice, and confined space rescues.</p>		<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u>	
<p>22. Supplemental Skills</p>	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of supplemental skills required by those acting as an emergency medical responder.</p> <p>b. Demonstrate proper Cardiopulmonary Resuscitation (CPR) on adults, children, and infants and the proper use of an Automated External Defibrillator (AED).</p> <p>c. Explain the benefits of an automated external defibrillation in a cardiac chain of survival and demonstrate steps used with an AED.</p> <p>d. Explain the indications for using supplemental oxygen and discuss the safety considerations and hazards of oxygen administration. Describe the equipment used to administer oxygen.</p> <p>e. Describe how to measure blood pressure by palpation and auscultation.</p>	<u>B4.6</u> <u>B9.3</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u>	
<p>23. Community Emergency Responder (CERT)</p>	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of the Community Responder Training Program, its intended function, and its relevance to emergency and disaster responders.</p> <p>b. Explain the CERT program, its goals, and the competencies taught, e.g., disaster preparedness, fire safety, disaster medical operations, light search and rescue, disaster psychology, and terrorism.</p> <p>c. Describe the role of the CERT Program and its volunteers when participating in natural disasters, e.g., earthquakes and tsunamis, fires and wildfires, floods, excessive heat, volcanoes, winter storms, hurricanes and tornadoes, landslides and mudflows, nuclear power emergencies, and pandemics or infectious disease outbreaks.</p> <p>d. Understand the role of federal, state, and local agencies in catastrophic event planning, preparation, response, and recovery.</p> <p>e. Recognize the importance and variety of recovery strategies to support individuals and communities impacted by a catastrophic event.</p>	<u>B1.4</u> <u>B6.0</u>	<u>1</u> <u>2</u> <u>5</u> <u>7</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>7</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u> <u>WS</u> <u>11-12.7</u> <u>SLS</u> <u>9-10</u> <u>11-12.1</u>	

24. Introduction to the Incident Command System (ICS)	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Understand the processes by which emergency management organizations and emergency managers exert command and control over an emergency response and recovery operation.</p> <p>b. Describe the principles and responsibilities of the Incident Command Systems and the National Incident Management Systems (NIMS).</p> <p>c. Identify and explain the different positions and relationships within the ICS structure.</p> <p>d. Explain the importance of an organized Command and Control System to provide interoperability, efficiency, and effectiveness.</p> <p>e. Describe the core set of basic concepts, principles, terminology, and technologies of emergency response management.</p> <p>f. Explain the importance of multiagency coordination, unified command, training, identification and management of resources, and the collection, tracking, evaluation, and dissemination of information.</p>	<p>B2.0 B2.2</p>	<p>1 2 5 7 11</p>	<p>1 2 5 7 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7 SLS 9-10 11-12.1</p>	
25. Wildland Fire Behavior	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of basic wildland fire behavior and wildland fire techniques.</p> <p>b. Identify the environmental factors of Wildland fire behavior that affect the start and spread of Wildland fire.</p> <p>c. Describe and analyze factors that affect Wildland fires.</p> <p>d. Identify and discuss hazardous situations pertaining to Wildland fires.</p> <p>e. Define and discuss the fuel and stable and unstable weather factors that affect Wildland fires.</p> <p>f. Identify the four topographic factors that affect Wildland fire behavior.</p> <p>g. Identify weather monitoring equipment and its use in relation to fire.</p> <p>h. Discuss the personal protective equipment (PPEs) used in fighting Wildland fires.</p> <p>i. Describe the dangerous conditions that can develop in a box canyon or steep, narrow canyon.</p> <p>j. Describe the three basic methods of heat transfer.</p> <p>k. Discuss the fire environmental factors to be aware of while monitoring fire behavior.</p> <p>l. 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 and equipment.</p>	<p>B4.2 B10.7</p>	<p>1 2 5 11 12</p>	<p>1 2 5 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7</p>	
26. Basic Firefighting Management	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of the basic concepts, principles, and techniques of fire technology.</p> <p>b. Compare and contrast a fire triangle and a fire tetrahedron.</p> <p>c. Describe the classification of fires, the fire triangle and fire tetrahedron, and fire behavior.</p> <p>d. Use appropriate terminology on clear, concise, and legible report entries when preparing and submitting required reports, e.g., fire whirl, flare up, flaming front, backing fire, control line, anchor point, and other terminology related to Wildland fire fighting.</p>	<p>B3.7 B3.9 B8.3 B10.0 B10.1 B10.4 B10.5</p>	<p>1 2 5 7 11</p>	<p>1 2 5 7 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7 SLS 9-10</p>	

<ul style="list-style-type: none"> e. Practice verbal and nonverbal emergency terminology and communication techniques to be used when interacting with emergency response personnel in a variety of emergency situations. f. Practice safe and proper use of firefighting tools and equipment. g. Discuss the principle behind fire line construction. h. Identify basic air operations of helicopters and airplanes and discuss the transportation of firefighters, equipment, food, water, and supplies. i. Discuss the role and the interdependency of the following fire and aviation management agencies, e.g., U.S. Forestry, Bureau of Land Management, the National Park Service, and the U.S. Fish and Wildlife Service. j. Identify the various types of equipment used to control and/or extinguish Wildland fires. k. Describe the value of a resource management program, including the impact on timber, watershed, wildlife, and recreation. l. Identify the locations of Wildland lookouts, and describe the lookouts' purpose, training, and staffing. 	B10.6 B10.8			11-12.1	
27. Power Saws	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of fire tools and power saws and their function. b. Identify the components and typical maintenance of a power saw. c. Discuss proper safety equipment and procedures. d. Describe and practice 'limbing.' 	B10.8	<u>1</u> <u>2</u>	<u>1</u> <u>2</u> <u>11</u>		
28. Firing Methods	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge in back firing procedures, processes, and tools. b. Discuss the role of backfiring in wildfire control. c. Identify backfiring tools and equipment and discuss the safety procedures for safe handling of this equipment. d. Describe backfiring techniques, strategies, and the conditions required to safely backfire. 		<u>1</u> <u>2</u> <u>11</u>	<u>1</u> <u>2</u> <u>11</u>	LS 9-10 11-12.6	
29. Fire Prevention and Fire Investigation	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> a. Demonstrate knowledge of fire prevention practices and techniques, and recognize how to preserve the site of the fire's origin. b. Define and discuss Wildland fire prevention techniques. c. Compare and contrast Wildland fire prevention techniques with other fire prevention techniques. d. Describe the steps and discuss the processes required to identify and preserve the fire origin site for arson investigators. e. Discuss the importance of regularly scheduled fire prevention inspections of a business or facility. 	B6.2 B8.8 B10.3	<u>1</u> <u>2</u> <u>5</u> <u>8</u> <u>11</u> <u>12</u>	<u>1</u> <u>2</u> <u>5</u> <u>8</u> <u>11</u>	LS 9-10 11-12.6 WS 11-12.7 SLS 11- 12.1d	

<p>f. Discuss methods of providing public education about the need to employ fire prevention strategies on private and public lands.</p> <p>g. Discuss current Wildland fire fighting techniques and the changes that have occurred in firefighting philosophy and its methodology due to recent large-scale fires that have threatened or damaged towns, communities, historical monuments, and national parks.</p>					
30. Physical Fitness and Safety	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge of the physical fitness requirements required in Wildland firefighting.</p> <p>b. Describe the physical fitness, strength, and agility requirements necessary for becoming a Wildland firefighter.</p> <p>c. Discuss how physical and mental health is important for personal and coworker safety.</p> <p>d. Describe the components and training for the Wildland Fighter Pack Test, e.g., arduous duty performance with 3-mile trek with 45-pound pack in 45 minutes.</p> <p>e. Discuss the importance of physical fitness and proper nutrition is needed to perform duties of emergency firefighting personnel.</p> <p>f. Describe Wildland firefighter safety and survival equipment and preparation.</p>	<p>B5.0 B5.1 B5.5</p>	<p>1 2 5 6 11</p>	<p>1 2 5 6 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7 RSTS 9-10 11-12.4</p>	
31. Fatalities Case Studies	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Demonstrate knowledge that firefighting fatalities occur and assess prevention strategies.</p> <p>b. Research and discuss case studies where fatalities have occurred.</p> <p>c. Identify the factors that led to the complexity of the incident and the role external and internal factors contributed to the tragedy.</p> <p>d. Know how to establish situational awareness, identify hazards, and assess personal, team, or environmental risks. Adhere to comprehensive and systematic risk management strategies to reduce injury and fatalities for self, team, and community.</p> <p>e. Analyze the history and outcomes of catastrophic events and the appropriate emergency responses.</p> <p>f. Discuss how fatalities have affected public opinion and have led to changes in firefighting philosophies, strategies, and techniques.</p>	<p>B4.3 B4.4 B6.2 B10.7</p>	<p>1 2 5 11 12</p>	<p>1 2 5 11</p>	<p>LS 9-10 11-12.6 WS 11-12.7</p>	

Standards Alignment

The curricula have been aligned with the CTE Model Curriculum Standards released in 2013. Each industry sector was updated to meet the increased rigor and relevancy requirements of the Common Core State Standards. The curriculum also includes the new Standards for Career Ready Practices.

Standards for Career Ready Practice

1. *Apply appropriate technical skills and academic knowledge.*
2. *Communicate clearly, effectively, and with reason.*
3. *Develop an education and career plan aligned with personal goals.*
4. *Apply technology to enhance productivity.*
5. *Utilize critical thinking to make sense of problems and persevere in solving them.*
6. *Practice personal health and understand financial literacy.*
7. *Act as a responsible citizen in the workplace and the community.*
8. *Model integrity, ethical leadership, and effective management.*
9. *Work productively in teams while integrating cultural and global competence.*
10. *Demonstrate creativity and innovation.*
11. *Employ valid and reliable research strategies.*
12. *Understand the environmental, social, and economic impacts of decisions.*

CTE Anchor Standards—Common Core English Language Arts Alignment

Anchor Standard 1: Academics

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the industry sector alignment matrix for identification of standards. Note: alignment listed within each sector.

Anchor Standard 2: Communications

Language Standard: Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the (career and college) readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. LS 9-10, 11-12.6

Anchor Standard 3: Career Planning and Management

Speaking and Listening Standard: Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. SLS 11-12.2

Anchor Standard 4: Technology

Writing Standard: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments and information.

Anchor Standard 5: Problem Solving and Critical Thinking

Writing Standard: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, and synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. WS 11-12.7

Anchor Standard 6: Health and Safety

Reading Standards for Science and Technical Subjects: Determine the meaning of symbols, keywords, and other domain-specific words and phrases as they are used in a specific scientific or technical context. RSTS 9-10, 11-12.4

Anchor Standard 7: Responsibility and Flexibility

Speaking and Listening Standard: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others' ideas and expressing their own clearly and persuasively. SLS 9-10, 11-12.1

Anchor Standard 8: Ethics and Legal Responsibilities

Speaking and Listening Standard: Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the work. SLS 11-12.1d

Anchor Standard 9: Leadership and Teamwork

Speaking and Listening Standard: Work with peers to promote civil, democratic discussions and decision making; set clear goals and deadlines; and establish individual roles as needed. SLS 11-12.1b

Anchor Standard 10: Technical Knowledge and Skills

Writing Standard: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. WS 11-12.6

Anchor Standard 11: Demonstration and Application

Demonstrate and apply the knowledge and skills contained in the industry-sector anchor standards, pathway standards, and performance indicators in the classroom, laboratory, and workplace settings, and the career technical student organization. Note: no alignment evident for this standard. WS 11-12.6

CTE Model Curriculum Standards—Industry Sectors and Pathways

Public Services

B. Emergency Response Pathway

- B1.4 *Describe the roles and responsibilities of emergency response agencies.*
- 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.*
- B2.3 *Understand the core set of basic concepts, principles, terminology, and technologies of emergency response management.*
- B2.4 *Recognize multiagency coordination; unified command, training, identification and management of resources; qualification and certification; and the collection, tracking, evaluation, and dissemination of information.*
- B2.5 *Describe the principles and responsibilities of the Incident Command System (ICS) and the National Incident Management System (NIMS).*
- B3.3 *Employ active listening, concise reporting, and familiarity with emergency response communication equipment to interact efficiently and effectively.*
- B3.4 *Describe emergency response techniques and methods of active listening to obtain and clarify information in oral communications.*
- B3.6 *Adhere to Health Insurance Portability and Accountability Act (HIPAA) regulations and agency guidelines regarding public and media communications.*
- B3.7 *Use appropriate terminology in clear, concise, and legible report entries when preparing and submitting required reports.*
- B3.8 *Use and maintain a variety of communication equipment, understanding the importance of using current and up-to-date technology and communication equipment.*
- 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.*
- B4.2 *Know and use the appropriate personal protective equipment (PPE) required for emergency services duties.*
- B4.3 *Know how to establish situational awareness, identify hazards, and assess personal, team, or environmental risks.*
- B4.4 *Understand and adhere to comprehensive and systematic risk management strategies to reduce injury and fatalities for self, team, and community.*
- B4.6 *Complete certification in emergency care as appropriate—for example, cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), and first aid.*
- B5.0 *Develop the level of nutrition, fitness, strength, agility, and psychological health and wellbeing required for safely working in emergency response career fields.*
- B5.1 *Understand that physical fitness and proper nutrition are needed to perform the duties of emergency response personnel.*
- B5.5 *Recognize and understand the importance of maintaining psychological health and well-being in emergency response occupations.*
- 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.*
- B7.4 *Explain the steps taken, including appropriate personnel and safety measures, for a hazardous-material release.*
- 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.*
- B8.7 *Apply principles of proper body mechanics, including ergonomics, equipment use, and techniques to prevent personal injury.*
- 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.*

- B9.0 *Demonstrate the immediate basic life support and interim medical care for a sick, injured, or compromised person until advanced medical care is provided or transport is initiated.*
- B9.1 *Understand and use medical terminology and related knowledge of anatomy, physiology, diseases, diagnoses, pharmacology, therapeutics, and common abbreviations necessary for emergency medical services.*
- B9.3 *Perform technical skill and equipment use required for emergency response occupations—for example, airway, oxygen, and ventilation procedures; suction; bleeding control; shock management; cardiac arrest management; immobilization techniques; traction; splinting; transport; defibrillation; and wound management.*
- B9.4 *Follow instructions for immediate care procedure as transmitted by an emergency medical dispatcher during transport.*
- B9.7 *Execute protocols in emergency management response when working with an on-scene accident.*
- B9.8 *Demonstrate the ability to assess the nature and extent of an illness or injury to establish and prioritize medical response.*
- B9.10 *Demonstrate the ability to receive and provide patient-care information to other medical providers.*
- B10.0 *Analyze and describe the functions and responsibilities of federal, state, and local wildland services.*
- B10.1 *Describe wildland firefighter safety and survival preparations.*
- B10.3 *Describe fire prevention and planning procedures to save wildland structures during a forest fire.*
- B10.4 *Assess the value of the resource management program, including the impact on timber, watershed, wildlife, and recreation.*
- B10.5 *Create a state map showing the locations of wildland lookouts and describe the lookouts' purpose and staffing.*
- B10.6 *Evaluate the importance of the fire suppression aviation program.*
- B10.7 *Recognize factors that influence the start and spread of wildland fires.*
- B10.8 *Describe and evaluate the importance of the various types of equipment used to control and/or extinguish wildland fires.*

ISTE Standards for Students

1. Empowered Learner- *Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.*

- a) Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.*
- b) Students build networks and customize their learning environments in ways that support the learning process.*
- c) Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways*
- d) Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.*

2. Digital Citizen- *Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical.*

- a) Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.*
- b) Students engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.*
- c) Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.*
- d) Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.*

3. Knowledge Constructor- *Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.*

- a) Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.*
- b) Students evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.*
- c) Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.*
- d) Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.*

4. Innovative Designer- *Students use a variety of technologies within a design process to identify and solve problems creating new, useful, or imaginative solutions.*

- a) Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.*
- b) Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.*
- c) Students develop, test, and refine prototypes as part of a cyclical design process.*
- d) Students exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.*

5. Computational Thinker- *Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.*

- a) Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models, and algorithmic thinking in exploring and finding solutions.*
- b) Students collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.*
- c) Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.*
- d) Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.*

6. Creative Communicator- *Students communicate clearly and express themselves creatively for a variety of purposes using platforms, tools, styles, formats, and digital media appropriate for their goals.*

a) Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

b) Students create original works or responsibly repurpose or remix digital resources into new creations.

c) Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.

d) Students publish or present content that customizes the message and medium for their intended audiences.

7. Global Collaborator- *Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.*

a) Students use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.

b) Students use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.

c) Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

d) Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.