

COURSE OUTLINE

I. ORIENTATION

- A. Introduce course and facilities
- B. Discuss syllabus and major objectives
- C. Explain attendance, grading, classroom procedures, code of conduct
- D. Complete course safety requirements/test

II. CAREERS IN HEALTH SCIENCE

- A. Research and report on the specialized occupations within the Health Science industry
- B. Identify the steps in the hiring process from application to employment
- C. List the eligibility requirements for various health science positions
- D. Explain the impact of pre-service activities on employability (e.g., financial irresponsibility, criminal record, improper social media behavior, etc.)
- E. Identify the reasons for disqualification
- F. Describe the physical fitness requirements and the impact of nutrition and a healthy lifestyle on employability/job performance

III. PREPARING FOR COLLEGE AND CAREERS

- A. Review and Discuss California CTE Model Curriculum Standards for Career Ready Practice
- B. Create an Education Plan and a Career Plan aligned with personal goals
- C. Create a Resumé
- D. Create a Career Portfolio
- E. Complete a handwritten/hand-printed Job Application neatly, legibly and with no corrections or mistakes
- F. Practice a professional job interview
- G. Evening of Excellence Essay

IV. INTRODUCTION TO THE EMERGENCY MEDICAL SYSTEMS (EMS)

- A. Research the historical development of the EMS in the United States
- B. Research the progression of EMS legislation over time.
- C. Define the components of Emergency Medical Services (EMS) systems.
- D. Differentiate the roles and responsibilities of the First Responder from other out-of-hospital care providers.
- E. State the specific statutes and regulations in California regarding the EMS system.
- F. Research the responsibilities of a First Responder in accordance with the standards of an EMS professional.
- G. Explain the rationale for maintaining a professional appearance when on duty or when responding to calls.

V. LEGAL AND ETHICAL ISSUES

- A. Define the First Responder scope of care.
- B. Differentiate between expressed and implied consent.
- C. Discuss the implications for the First Responder in patient refusal of transport
- D. Clarify issues of abandonment, negligence, and battery and their implications to the First Responder.
- E. Explain the importance, necessity and legality of patient confidentiality.
- F. List the actions that a First Responder should take to assist in the preservation of a crime scene.
- G. Clarify advance directives and DNR procedures.
- H. Describe why it is inappropriate to judge a patient based on a cultural, gender, age, or socioeconomic model, and to vary the standard of care rendered as a result of that judgement.

VI. COMMUNICATION AND DOCUMENTATION

- A. Demonstrate cross-cultural communication techniques.
- B. Perform the steps necessary to complete a patient care report (PCR).
- C. Identify methods and special considerations when communicating with the elderly, children, hearing impaired patients, visually impaired patients, non-English speaking patients, other agencies, and hospital personnel.
- D. Describe the importance of nonverbal communications such as gestures, facial expressions, posture, body language and touch.

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- E. Explain the importance of understanding the response to death and dying and communicating effectively with the patient's family.
- F. Practice communicating with empathy to patients being cared for, as well as with family members, and friends of the patient.

VII. ANATOMY AND MEDICAL TERMINOLOGY

- A. List common medical terms and use them in their proper context.
- B. Identify and define common medical abbreviations.
- C. Identify body regions and cavities.
- D. List the major body systems and give general functions of each: Integumentary, Muscular, Skeletal, Nervous (including senses), Cardiovascular, Endocrine, Lymphatic, Immune, Respiratory, Gastrointestinal, Urinary, and Reproductive.
- E. Define anatomical terms to describe body sections, body regions, and relative positions.

VIII. WORKFORCE SAFETY & WELLNESS

- A. List possible emotional reactions that the First Responder may experience when faced with trauma, illness, death, and dying.
- B. State the possible reactions that the family of the First Responder may exhibit.
- C. Research possible steps that the First Responder may take to help alleviate stress.
- D. Discuss the importance of body substance isolation (BSI), and determine what should be worn.
- E. Describe the steps the First Responder should take for personal protection from airborne and blood borne pathogens.
- F. List the personal protective equipment necessary for rescue operations.
- G. Define the five stages of death.

IX. PATIENT ASSESSMENT

- A. Demonstrate the process used to check the responsiveness of a patient.
- B. Demonstrate the steps for performing a patient assessment.
- C. Describe the difference between normal and abnormal vital signs.
- D. Demonstrate the proper procedure for measuring and recording a patient's blood pressure.
- E. Differentiate between signs and symptoms.
- F. Explain the importance of obtaining a patient's medical history.
- G. Identify the components of scene size-up.
- H. Explain the reason for identifying the need for additional help or assistance.
- I. List the components of the SAMPLE history.
- J. Describe the information included in the First Responder "hand-off" report.
- K. Explain the value of an initial assessment.
- L. Explain the value of an on-going assessment.

X. LIFTING, MOVING, AND POSITIONING PATIENTS

- A. Describe and demonstrate the patient AVPU method.
- B. Define body mechanics.
- C. Discuss the guidelines and safety precautions that need to be followed when lifting a patient.
- D. Explain the rationale for properly lifting and moving patients.
- E. Demonstrate proper lifting techniques.
- F. Describe the indications for an emergency move.
- G. Explain the rationale for an emergency move.
- H. Demonstrate the steps required to perform patient drags.
- I. Describe the indications for assisting in non-emergency moves.
- J. Discuss the various devices associated with moving a patient in the out-of-hospital arena.
- K. Identify and demonstrate the steps necessary to transfer a patient from bed to stretcher.
- L. Demonstrate how to measure and use a Cervical Collar.
- M. Demonstrate spinal immobilization on long board and short board.
- N. Identify and demonstrate the steps necessary to position a patient.

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XI. CARDIOPULMONARY RESUSCITATION (CPR)

- A. Define the components involved in the circulatory system.
- B. List the reasons for the heart to stop beating.
- C. Demonstrate the technique of external chest compressions on an adult patient.
- D. Demonstrate the technique of external chest compressions on an infant.
- E. Demonstrate the technique of external chest compressions a child.
- F. Demonstrate the steps of two-rescuer adult CPR.
- G. Demonstrate the steps of child CPR.
- H. Pass a CPR exam with an 80% or higher. **
- I. List the links in the chain of survival.
- J. Identify the common situations that may require the use of CPR.
- K. Discuss the moral and legal implications for performing CPR.

**Completion of unit does not include CPR card or certification

XII. EMS OPERATIONS

- A. Demonstrate how to prepare for a call.
- B. Demonstrate how you would gain access to patients in vehicles, building, or trapped wreckage.
- C. Demonstrate extraction of patients using a KED (Kendrick Extrication Device).
- D. Demonstrate the START (Simple Triage and Rapid Treatment) criteria for assessing patients in multiple casualty incidents.
- E. Describe what you do if there is reason to believe that there is a hazard at the scene.
- F. Research the First Responder's role until appropriately trained personnel arrive at the scene of a hazardous materials situation.
- G. Describe the criteria for a multiple-casualty situation.
- H. Summarize the components of basic triage.

XIII. MEDICAL EMERGENCIES

- O. Identify causes, signs, symptoms, and treatment of anaphylaxis
- P. Describe the causes, signs and symptoms of common cardiac emergencies
- Q. Describe the causes, signs and symptoms of common emergencies related to diabetes
- R. Identify causes, signs, symptoms, and treatment for common medical emergencies
- S. Identify causes, signs, symptoms, and treatment of patients who have been exposed to poison
- T. Describe the signs, symptoms, and treatment of patients with possible drug overdoses
- U. Describe the causes, signs and symptoms of common emergencies related to the nervous system e.g. seizures, loss of consciousness, mental confusion, etc.

XIV. TRAUMA EMERGENCIES

- L. List the signs, symptoms, and treatment for shock
- M. Demonstrate emergency care for external bleeding
- N. Explain the emergency medical treatment for various types and locations of wounds
- O. Demonstrate the emergency medical care used for a patient with an impaled object
- P. Demonstrate the emergency medical care used for a patient with an amputation
- Q. Demonstrate the emergency medical care used for a patient with a penetrating chest injury
- R. Identify causes and treatment for various types of burns
- S. Differentiate between arterial, venous, and capillary bleeding
- T. List the signs, symptoms, and treatment for internal bleeding
- U. Describe the emergency medical care used to treat a soft tissue injury

XV. CARDIOVASCULAR AND RESPIRATORY EMERGENCIES

- A. Describe common medical emergencies related to the cardiovascular system
- B. Identify signs and symptoms of respiratory distress
- C. Demonstrate proper rescue breathing techniques including, mouth to mouth, mouth to mask, mouth to barrier, and bag valve mask (BVM)
- D. Demonstrate the appropriate use of supplemental oxygen
- E. Explain the difference in signs and symptoms between a partial and complete airway obstruction

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- F. Perform the steps used in the removal of a foreign body airway obstruction in an infant, child, and adult
- G. Describe the anatomy and function of the circulatory system
- H. Distinguish major structures and functions of the respiratory system
- I. Identify differences in the respiratory systems of infants, children, and adults
- J. Identify equipment commonly used for artificial ventilation
- K. Demonstrate the proper procedures used in one and two-person CPR on infants, children, and adults
- L. Pass a CPR exam with an 80% or higher**
- M. List the links in the chain of survival
- N. Explain the importance of early access to an AED
- O. Demonstrate the procedures for using an AED
- P. Identify common situations that may require the use of CPR
- Q. Discuss moral and legal implications for performing first aid and CPR

XVI. MUSCULOSKELETAL INJURIES

- A. Demonstrate splinting techniques
- B. Assess and treat a patient with a suspected spinal injury
- C. Differentiate between a fracture, dislocation, and sprain
- D. Evaluate the pulse, motor, sensation, and circulation (PMSC) of a patient with an extremity injury
- E. Demonstrate the assessment and management of a patient with a suspected head injury
- F. Describe the anatomy and function of the muscular system
- G. Describe the anatomy and function of the skeletal system
- H. Identify common causes and prevention for musculoskeletal injuries

XVII. CHILDBIRTH

- A. Explain the stages of labor and delivery
- B. List the steps taken to prepare a pregnant woman for delivery
- C. Describe the methods used to assist during child birth
- D. Describe the necessary care of the mother and newborn pre and post-delivery
- E. Identify possible complications that can occur during childbirth

XVIII. BEHAVIORAL AND MENTAL HEALTH EMERGENCIES

- A. Demonstrate safety precautions when dealing with potentially violent patients
- B. Identify techniques to safely restrain a patient with behavioral problems
- C. Describe the principles for assessing patients experiencing a behavioral emergency
- D. Define a 5150 and explain how it applies to patient care

XIX. PEDIATRIC EMERGENCIES

- A. Identify common pediatric emergencies
- B. Explain the steps that should be taken to care for a child who has signs of abuse or sexual assault
- C. Demonstrate how to determine an infant and child pulse rate, respiratory rate, and body temperature
- D. Describe methods used for cooling an infant and child with a high fever
- E. Identify methods to prevent pediatric emergencies and injuries

XX. ENVIRONMENTAL EMERGENCIES

- A. Identify the signs, symptoms, and treatment of cold exposure
- B. Identify the signs, symptoms, and treatment of heat exposure
- C. Describe the signs, symptoms, and treatment for common bites and stings
- D. List the signs, symptoms, and treatment for drowning or near-drowning

XXII. HAZARDOUS MATERIALS

- A. Explain the role of the Emergency Responder at a hazardous materials incident
- B. Describe the common signs of a potential hazardous materials incident
- C. Explain the purpose of the cold, warm, and hot zones at a hazardous materials incident
- D. Identify and manage common hazards at a simulated emergency response
- E. Demonstrate the process for proper cleaning and decontamination of equipment
- F. Utilize the Emergency Response Guidebook to identify a suspected hazardous material
- G. Identify the different levels of PPE used in hazardous situations.

COURSE OUTLINE

ESSENTIAL STANDARDS AND KEY ASSIGNMENTS

INDUSTRY SECTOR: Health Science and Medical Technology

ESSENTIAL PATHWAY STANDARD - A1.0

Understand the basic structure and function of the human body and relate normal function to common disorders.

KEY ASSIGNMENT

ESSENTIAL PATHWAY STANDARD - A2.0

Recognize and practice components to an intake assessment relevant to patient care.

KEY ASSIGNMENT

ESSENTIAL PATHWAY STANDARD – A3.0

Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting patients.

KEY ASSIGNMENT

ESSENTIAL PATHWAY STANDARD – A4.0

Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning.

KEY ASSIGNMENT

ESSENTIAL PATHWAY STANDARDS – A5.0

STANDARDS FOR CAREER READY PRACTICE

1. **Apply appropriate technical skills and academic knowledge.** Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and performing other work-related practices.

2. **Communicate clearly, effectively, and with reason.** Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others: they are active listeners who speak clearly and with purpose, and they are comfortable with terminology that is common to workplace environments. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

3. **Develop an education and career plan aligned with personal goals.** Career-ready individuals take personal ownership of their educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process, and they understand that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever-changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

4. **Apply technology to enhance productivity.** Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

5. **Utilize critical thinking to make sense of problems and persevere in solving them.** Career-ready individuals recognize problems in the workplace, understand the nature of the problems, and devise effective plans to solve the problems. They thoughtfully investigate the root cause of a problem prior to introducing solutions. They carefully consider options to solve a problem and, once agreed upon, follow through to ensure the problem is resolved.

6. **Practice personal health and understand financial literacy.** Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

7. **Act as a responsible citizen in the workplace and the community.** Career-ready individuals understand the obligations and responsibilities of being a member of a community and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them, and they think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond minimum expectations and in participating in activities that serve the greater good.

8. **Model integrity, ethical leadership, and effective management.** Career-ready individuals consistently act in ways that align with personal and community-held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they recognize the short-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture.

9. **Work productively in teams while integrating cultural and global competence.** Career-ready individuals contribute positively to every team, as both team leaders and team members. To avoid barriers to productive and positive interaction, they apply an awareness of cultural differences. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

10. **Demonstrate creativity and innovation.** Career-ready individuals recommend ideas that solve problems in new and different ways and contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern which ideas and suggestions may have the greatest value. They seek new methods, practices, and ideas from a variety of sources and apply those ideas to their own workplace practices.

11. **Employ valid and reliable research strategies.** Career-ready individuals employ research practices to plan and carry out investigations, create solutions, and keep abreast of the most current findings related to workplace environments and practices. They use a reliable research process to search for new information and confirm the validity of sources when considering the use and adoption of external information or practices.

12. **Understand the environmental, social, and economic impacts of decisions.** Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, and materials and adhere to regulations affecting the nature of their work. They are cognizant of impacts on the social condition, environment, workplace, and profitability of the organization.

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. WS 11-12.6 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, key words, 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 classroom, laboratory, and workplace settings, and the career technical student organization.