



HEALTHCARE SCIENCE

COURSE: 25.564 Emergency and Disaster Preparedness

UNIT: 9.1 CPR



INTRODUCTION

Annotation:

Upon the completion of this unit students will demonstrate the steps of Basic Life Support (BLS) with AED (Automated External Defibrillator). Completion of this standard will enable students to obtain certifications in the American Heart Association (AHA) Basic Life Support, American Red Cross (ARC) CPR or American Safety and Health Institute's (ASHI) CPR.

Grade(s):

<input type="checkbox"/>	9 th
<input checked="" type="checkbox"/>	10 th
<input checked="" type="checkbox"/>	11 th
<input checked="" type="checkbox"/>	12 th

Time: Fifteen 50 minute class periods

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Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



FOCUS STANDARDS

GPS Focus Standards:

HS-EDP-3: Cardiopulmonary Resuscitation. Students will demonstrate the steps of Basic Life Support (BLS).

- a. Demonstrate cardiopulmonary resuscitation on an infant, a child, and an adult (simulate using manikins).
- b. Utilize personal protective devices and the use of standard precautions for disease prevention.
- c. Identify when cardiopulmonary resuscitation may be discontinued once it has been initiated.
- d. Demonstrate the application, operation, and maintenance of an automated external defibrillator trainer.

GPS Academic Standards:

SAP1. Students will analyze anatomical structures in relationship to their physiology functions.

National / Local Standards / Industry / ISTE:

See Module 4-1.1 to 4-1.22 on NHTSA website www.nhtsa.dot.gov/people/injury/ems/pub/frnsc.doc



UNDERSTANDINGS & GOALS

Enduring Understandings:

- There are times when victims will become severely ill or injured to the point that a life threatening emergency occurs. A victim's heart may stop beating and they may stop breathing. Since prompt and appropriate action is essential to the victim's chance of survival, it is important for the rescuer to know how to assess and respond effectively. Knowing how to provide CPR to all ages can make the difference in the victim's outcome.

Essential Questions:

- How can the First Responder provide effective CPR?
- Over the decades CPR has changed, what changes do you predict will occur with CPR in the future?
- What changes in CPR would you recommend to facilitate a better survival outcome for pre-hospital cardiac arrest?

Knowledge from this Unit:

- The importance of maintaining the "ABC's" of CPR
- Proper operation of an AED
- The "Chain of Survival"

Skills from this Unit:

- Students practice their skills demonstrated on the manikins provided.
- Differentiate between biological death and clinical death.
- Demonstrate cardiopulmonary resuscitation on an infant, a child, and an adult, (simulate using manikins) utilizing personal protective devices and the use of standard precautions for disease prevention.
- State the indications and contraindications for automated external defibrillation.
- Demonstrate the application, operation, and maintenance of an automated external defibrillator trainer.
- Students will identify the four times when cardiopulmonary resuscitation may be discontinued once it has been started.



ASSESSMENT(S)

Assessment Method Type:

- ☐ Pre-test
- ☐ Objective assessment - multiple-choice, true- false, etc.
 - ☐ Quizzes/Tests
 - ☒ Unit test
- ☐ Group project
- ☒ Individual project
- ☒ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
 - ☒ Self-check rubrics
 - ☐ Self-check during writing/planning process
 - ☐ Journal reflections on concepts, personal experiences and impact on one's life
 - ☐ Reflect on evaluations of work from teachers, business partners, and competition judges
 - ☐ Academic prompts
 - ☒ Practice quizzes/tests
- ☐ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☒ Observe students working with partners
 - ☒ Observe students role playing
- ☐ Peer-assessment
 - ☐ Peer editing & commentary of products/projects/presentations using rubrics
 - ☐ Peer editing and/or critiquing
- ☐ Dialogue and Discussion
 - ☒ Student/teacher conferences
 - ☒ Partner and small group discussions
 - ☐ Whole group discussions
 - ☐ Interaction with/feedback from community members/speakers and business partners
- ☐ Constructed Responses
 - ☒ Chart good reading/writing/listening/speaking habits
 - ☒ Application of skills to real-life situations/scenarios
- ☒ Post-test

Assessment(s) Title:

CPR Competency Exam (practical and written test), CPR rubric for non certification, CPR outline

Assessment(s) Description/Directions:

American Heart Association and/or American Red Cross handbook, classroom textbook

Attachments for Assessment(s): Please list.

These assessments are included in the instructors guide from the AHA and or the ARC.



LEARNING EXPERIENCES

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

HS-EDP-3: Cardiopulmonary Resuscitation. Students will demonstrate the steps of Basic Life Support (BLS).

2. Review Essential Questions.

- How can the First Responder provide effective CPR?
- Over the decades CPR has changed, what changes do you predict will occur with CPR in the future?
- What changes in CPR would you recommend to facilitate a better survival outcome for pre-hospital cardiac arrest?

3. Identify and review the unit vocabulary.

- Compression
- Chain of Survival
- Cardiac Arrest
- Ventilation
- Defibrillator

4. Assessment Activity.

Interest approach – May ask the students if they know anyone that is a survivor of CPR

5. Introduce equipment that is used for CPR and discuss safety and infection control procedures:

- Manikin
- Barrier for ventilation
- AED
- Gloves

1. Instruct students to read the CPR chapter from the classroom book.
2. Follow the curriculum in the AHA or ARC handbook. These pieces of information have specific guides that must be followed. IF the instructor is not certified, review the CPR outline included in the attachments section of this lesson plan.
3. View the Video that is associated with the guide as indicated for Adult CPR.
4. Demonstrate Adult CPR with AED.

5. Ask students to recall when CPR can be stopped. Refer to handbook.
6. Have students practice and recall steps for CPR using personal protective devices.
7. Have students take the test for Adult CPR with AED.
8. Perform the assessment for final check-off for Adult CPR with AED.
9. View the Video that is associated with the guide as indicated for Child CPR.
10. Demonstrate Child CPR with AED.
11. Ask students to recall when CPR can be stopped. Refer to handbook.
12. Have students practice and recall steps for CPR using personal protective devices.
13. Have students take the test for Child CPR with AED.
14. Perform the assessment for final check-off for Child CPR with AED.
15. View the Video that is associated with the guide as indicated for infant CPR.
16. Demonstrate infant CPR with AED.
17. Ask students to recall when CPR can be stopped. Refer to handbook.
18. Have students practice and recall steps for CPR using personal protective devices.
19. Have students take the test for infant CPR with AED.
20. Perform the assessment for final check-off for infant CPR with AED.
21. Take the test for CPR if not using the ARC and or AHA test.
22. Teacher should follow up with the submission for the certification cards to the ARC or AHA for the students that qualify.

Attachments for Learning Experiences:

- CPR Outline
- CPR Test
- CPR RUBRIC for non certification
- Safety Infection Test – this is a test about infection control and the use of manikins
- Safety Answers – the answers to the above test

Notes & Reflections:

Teachers should be instructors with the American Red Cross and or American Heart Association. The materials supplied by these organizations must be followed in your classroom. These materials must be used according to the guidelines of either organization in order for the students to become certified in CPR with AED. Supplemental Check off is included in this plan. For teachers who are not yet trained as a CPR instructor for the American Heart Association or American Red Cross, an additional resource so that students may receive credentials may be to contact your local fire department or healthcare facility who may have trained instructors willing to help provide instruction.



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

Students will complete a (MPC) Manikin Practical Check off for 50% of their CPR certification.

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

- Students will perform CPR for Adult, Child, and Infant CPR with AED.
- Students will complete the AHA/ARC/ASHI CPR written exam with at least an 80% for the other 50% of their CPR certification. Once these 2 goals have been completed the student may elect to receive a CPR card. Each of the certifying agencies charges a monetary amount for the CPR card.

Attachments for Culminating Performance Task:

CPR Rubric



UNIT RESOURCES

Web Resources:

<http://www.cprinstructor.com>

www.nhtsa.dot.gov/people/injury/ems/pub/frnsc.doc

www.nhtsa.dot.gov/people/injury/ems/pub/frnsc.doc This site has the curriculum for first responder and other answers to questions that relate to first responder.

<http://cprinstructor.com/> This site has information on teaching CPR and simulations for adult, child and infant.

Attachment(s):

Materials & Equipment:

- Manikins
- Airway barrier
- AED Trainer

What 21st Century Technology was used in this unit:

<input type="checkbox"/>	Slide Show Software
<input type="checkbox"/>	Interactive Whiteboard
<input type="checkbox"/>	Student Response System
<input type="checkbox"/>	Web Design Software
<input type="checkbox"/>	Animation Software
<input type="checkbox"/>	Email

<input type="checkbox"/>	Graphing Software
<input type="checkbox"/>	Calculator
<input type="checkbox"/>	Desktop Publishing
<input type="checkbox"/>	Blog
<input type="checkbox"/>	Wiki
<input checked="" type="checkbox"/>	Website

<input type="checkbox"/>	Audio File(s)
<input checked="" type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Image File(s)
<input checked="" type="checkbox"/>	Video
<input type="checkbox"/>	Electronic Game or Puzzle Maker