



HEALTHCARE SCIENCE

COURSE: 25.521 Introduction to Healthcare Science

UNIT: 6.1 Infection Control



INTRODUCTION

Annotation:

In this unit students will be introduced to the concepts of microbiology as it relates to infection control in the healthcare environment.

Grade(s):

X	9 th
X	10 th
X	11 th
X	12 th

Time:

Five 50 minute class periods

Author:

Delores Smith

Additional Author(s):

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-IHS-11:

The student will utilize the principles of infection control.

- a. Evaluate the need for asepsis in the health environment.
- b. Differentiate between cleaning, disinfecting, and sterilizing.
- c. Analyze ways microorganisms are spread using the chain of infection model and analyze methods to destroy or control the spread of pathogenic microorganisms.
- d. Identify risk factors associated with nosocomial infections and evaluate their impact on client and employee health.
- e. Define, demonstrate, and use standard precautions as described in the rules and regulations set forth by the Occupational Safety and Health Administration (OSHA).

GPS Academic Standards:

SCSh2: Students will use standard safety practices for all classroom laboratory and workplace investigations.

SAP1: Students will analyze anatomical structures in relationship to their physiological functions

National / Local Standards / Industry / ISTE:



UNDERSTANDINGS & GOALS

Enduring Understandings:

Students will understand:

- Understand the need for asepsis in the health environment
- Understand the chain of infection and methods to control /destroy microorganisms.

Essential Questions:

- What factors affect asepsis in the health environment?
- How can I help maintain asepsis?

Knowledge from this Unit:

- Why asepsis is needed.
- The difference between disinfected, cleaned and sterilized
- The links in the chain of infection and how to break the links
- Verbalize the impact of nosocomial infections on the healthcare environment
- the role of OSHA and standard precautions

Skills from this Unit:

- Perform medical aseptic hand washing
- Don and remove nonsterile gloves
- Demonstrate cleaning and disinfecting techniques



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:

- Concepts of Microbiology Quiz
- Infection control word search
- Online scenario activity
- Hand washing skill checklist

Assessment(s) Description/Directions:

Word search can be given as a warm up activity. Allow students participate in online activity (web source designated below) after multimedia presentation and discussion.

Attachments for Assessment(s): Please list.

- Concepts of Microbiology Quiz
- Infection control word search



LEARNING EXPERIENCES

Sequence of Instruction**1. Identify the Standards. Standards should be posted in the classroom for each lesson.**

HS-IHS-11: The student will utilize the principles of infection control.

SCSh2. Students will use standard safety practices for all classroom laboratory and workplace investigations.

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

2. Review Essential Questions.

- What factors affect asepsis in the health environment?
- How can I help maintain asepsis?

3. Identify and review the unit vocabulary.**4. Assessment Activity.**

- a) Introduce the lesson by asking the students if their hands have living organisms on them? If so what kind? Desks? Books?
- b) Review reading assignment and vocabulary.

- c) Ask students to complete word search.
- d) Participate in interactive lecture with multimedia presentation and discussion.
- e) Present online activity and work through scenarios as a class.(Chain of Infection link)
- f) Provide demonstration in small groups of correct hand washing procedure. Have remaining student's complete OSHA scavenger hunt while working with small groups or a worksheet.
- g) Allow students to practice in small groups then complete checklist with instructor.
- h) Provide demonstration of donning and removing non sterile gloves.
- i) Allow practice then return demonstration and check off.
- j) Demonstrate and allow students to disinfect desks.
- k) Give concepts of microbiology quiz.

Student (Learning)

- a) Define key terms
- b) Explain the need for asepsis in the healthcare environment.
- c) Identify the chain of infection and opportunities to break the chain in the clinical setting.
- d) Discuss the cause and effect of nosocomial infections on the health environment and the importance of hand hygiene.
- e) Explore the OSHA website.
- f) Discuss, observe and practice aseptic techniques including but not limited to hand washing donning and removing gloves with return demonstrations.
- g) Define, demonstrate and utilize standard precautions as outlined in OSHA guidelines.
- h) Identify steps to complete correct hand washing technique.

Attachments for Learning Experiences: Please list.

Notes & Reflections: May include notes to the teacher, pre-requisite knowledge & skills, suggestions, etc.



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

- Medical Asepsis and disinfection
- Demonstrate aseptic hand washing and donning and removing non sterile gloves with return performance.
- Role-play scenario using standard precautions in clinical setting
- Explore OSHA website to identify guidelines and purpose.

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

- Demonstrate correct techniques for hand washing and donning and removing gloves. Allow students to practice in groups before final check- off.
- Utilize groups or partners for role play scenarios, have students create their own clinical situation.
- Provide scavenger hunt list for OSHA website.

Attachments for Culminating Performance Task:

- Role play rubric
- Hand washing skill checklist (attachment)



UNIT RESOURCES

Web Resources:

http://www.wisc-online.com/objects/index_tj.asp?objID=NUR1603 Chain of Infection

Attachment(s):

Materials & Equipment:

- Multimedia presentation
- Computer with internet access
- Textbook
- Daily essential questions or sponge activity
- OSHA website <http://www.osha.gov/>
- TV/VCR
- Paper towels, soap, sinks, gloves
- Disinfecting solution
- Hand washing video
- Hand washing skills checklist
- Worksheets

What 21st Century Technology was used in this unit:

<input checked="" type="checkbox"/>	Slide Show Software	<input type="checkbox"/>	Graphing Software	<input type="checkbox"/>	Audio File(s)
<input type="checkbox"/>	Interactive Whiteboard	<input type="checkbox"/>	Calculator	<input type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Student Response System	<input type="checkbox"/>	Desktop Publishing	<input type="checkbox"/>	Image File(s)
<input type="checkbox"/>	Web Design Software	<input type="checkbox"/>	Blog	<input type="checkbox"/>	Video
<input type="checkbox"/>	Animation Software	<input type="checkbox"/>	Wiki	<input type="checkbox"/>	Electronic Game or Puzzle Maker
<input type="checkbox"/>	Email	<input checked="" type="checkbox"/>	Website		