

TIES 2006

Teachers in Industry for Educational Support

Career Exploration in Medical Imaging Services

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Curriculum Unit Overview

Summary

The Career Exploration in Medical Imaging Services unit is geared towards Junior and Senior students enrolled in an Allied Health Program. This unit is designed to provide an introduction to the various fields of Radiology. The goal is for students to have a better understanding of the various divisions within the radiology department prior to a job shadowing experience in a Radiology department. The curriculum is designed to be a student independent study with the teacher as a facilitator. Students should be able to work their way through the various PowerPoint presentations and activities within an approximate 15 hour time frame including an introductory lecture by the instructor prior to independent work. The curriculum could also serve as an extended six to eight week module by including in-depth independent research projects, video presentations, internet assignments, guest speakers, field trips and job shadowing experiences.

Big Picture

The instructor should start by asking students what they know about radiology and record their thoughts on the board. After the students brainstorm for a few minutes then ask them if they know what the differences are between the tests and how they are performed. Ask students if they know when one modality would work better than another and why (ex. diagnosis a fracture of the femur verses a cerebral aneurysm.) At this point, as the novice, the student would be ready to start working through each PowerPoint.

Preparation for the Unit

Work independently to complete the PowerPoint presentations and assignments. A classroom with individual computer access is needed for student self-taught completion. A classroom with a smart board would be appropriate for the teacher-assisted program along with individual computer access for each student. Depending upon resources available may use educational videos, and radiology textbooks to supplement each modality.

Curriculum Unit Summary

CAREER EXPLORATION IN MEDICAL IMAGING SERVICES

Radiology	Radiology	Radiology
ALT 1 - X-ray and Fluoroscopy Definition of procedure, common uses, how the procedure works and is preformed, and equipment used, safety aspects, critical thinking situation and interactive assignments.	ALT 2 – Computed Tomography Definition of procedure, common uses, how the procedure works and is preformed, equipment used, safety aspects, critical thinking situation and interactive assignments	ALT 3 – Magnetic Resonance Imaging Definition of procedure, common uses, how the procedure works and is preformed, equipment used, safety aspects, critical thinking situation and interactive assignments
ALT 4 – Angiography Definition of procedure, common uses, how the procedure works and is preformed, equipment used, safety aspects, critical thinking situation and interactive assignments	ALT 5 – Ultrasound Definition of procedure, common uses, how the procedure works and is preformed, equipment used, safety aspects, critical thinking situation and interactive assignments	ALT 6 – Nuclear Medicine Definition of procedure, common uses, how the procedure works and is preformed, equipment used, safety aspects, critical thinking situation and interactive assignments
ALT 7 – Positron Emission Tomography Definition of procedure, common uses, how the procedure works and is preformed, equipment used, safety aspects, critical thinking situation and interactive assignments		
Transfer or Culminating Activity or Project Radiology internship, job shadow experience, or field trip exposure to the various departments within the Radiology department.		

Please check the boxes for the subject areas that are represented in your module. These are the categories used for indexing the curriculum as it's posted to our website.

X Health/Physical Education

**INTERNET ASSIGNMENT:
HOW X-RAYS WORK**

NAME: _____

SCORE: ____/40

DIRECTIONS: GO TO THE WEB SITE PROVIDED TO ANSWER THE QUESTIONS IN COMPLETE SENTENCES.
<http://www.howstuffworks.com/x-ray.htm>

1. EXPLAIN HOW AND WHEN X-RAYS WERE DISCOVERED.
2. WHAT ARE X-RAYS? HOW ARE THEY DIFFERENT FROM VISABLE LIGHT RAYS?
3. HOW ARE ELECTRONS INVOLVED IN X-RAYS?
4. WHY DO SOFT BODY TISSUES NOT SHOW UP WELL IN X-RAYS?
5. WHAT FORCES THE X-RAYS OUT INTO A SMALL BEAM?
6. WHAT DOES THE CAMERA IN A X-RAY MACHINE DO?
7. EXPLAIN WHY THE FILM IS ACTUALLY A NEGATIVE. WHAT ARE THE DARK AND LIGHT AREAS ON A X-RAY REPRESENT?

8. WHY CAN X-RAYS BE HARMFUL? WHAT HAPPENS INSIDE THE CELLS?
WHAT CONDITIONS CAN THIS CAUSE?

