IMAGE ANALYSIS I
Course Syllabus

Course Number: RADT-A0162
OCAS Code: None
Course Length: 48 Hours
Career Cluster: Health Science
Career Pathway: Diagnostic Services
Career Major(s): Radiologic Technologist

Pre-requisite(s): Content is designed to provide a basis for analyzing radiographic images. Included are the importance of minimum imaging standards, discussion of a problem-solving technique for image evaluation, and the factors that can affect image quality.

Blackboard

Course Objectives:

1. Discuss the elements of a radiographic image.
2. Identify anatomy on radiographic images.
3. Apply a problem-solving process used for image analysis.
4. Describe an effective image analysis method.
5. Describe the role of the radiographer in image analysis.
6. Describe contrast to noise (CNR) as it relates to digital radiography detectors.
7. Describe signal to noise (SNR) as it relates to digital radiography detectors.
8. Describe the conditions that cause quantum mottle in a digital image.
9. Apply the process for evaluating images for image receptor exposure, exposure indicator contrast/grayscale/spatial resolution, identification markers and appropriate use of beam restriction.
10. Apply a process for evaluating images for acceptable limits of distortion, image artifacts, radiation fog, noise and gross exposure error.
11. Summarize the importance of proper positioning.
12. Discuss the impact of patient preparation on the resulting radiographic image.
13. Identify common equipment malfunctions that affect image quality, and corrective action.
14. Differentiate between technical factor problems, procedural factor problems and equipment malfunctions.
15. Critique images for appropriate technical, procedural and pathologic factors, and employ corrective actions if necessary.
All objectives are taken from the ASRT (American Society of Radiologic Technologists) curriculum © 2017

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures:
1. Students are graded on theory and lab practice and performance.
2. Each course must be passed with eighty (80%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment:
Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit
The student may be eligible to take state, national or industry exam after completion of the program. Tulsa Tech students may be able to earn college credit based on their knowledge gained at Tech. The process of earning credit through Prior Learning Assessment (PLA) will be determined after completion with Tech and based on certification, credential or knowledge of the subject. See program counselor for additional information.

College Credit Eligibility:
All Tulsa Tech students (high school and adult) may have the opportunity to receive college credit upon completion of their program. Our College Relations office will work with students regarding the benefits of Prior Learning Assessments (PLA) toward an Associate of Applied Science (AAS) degree or a technical college certificate at area colleges. For more details call the College Relations office at 918.828.5000.