WORKED. CONSULTING

LINN BENTON COMMUNITY COLLEGE
CURRICULUM REVIEW: APRIL 29, 2016

Course Name
CAT 230 "Basic Principles of Computed Tomography"

Percentage of Materials that are Open Educational Resource
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Course Outcomes and Assessments Used
CAT 230 has fourteen stated learning outcomes:

1. Describe the components of the CT imaging system
2. Explain the functions of collimators in CT
3. List the CT computer data processing steps
4. Define algorithm and explain its impact on image scan factors and reconstruction
5. Define raw data and image data
6. Describe CT terms: Pixel, Matrix, Voxel, Linear attenuation coefficient, CT/Hounsfield number, Partial volume averaging, Window width (ww) and window level (wl), Spatial resolution, Contrast resolution, Noise, Annotation and Region of interest (ROI)
7. Name the common controls found on CT operator consoles and describe how and why each is used
8. Identify the types and appearance of artifacts most commonly affecting CT images
9. Name the radiation protection devices that can be used to reduce patient dose in CT and describe the correct application of each
10. Describe the general purpose of commonly performed CT studies
11. Discuss general radiation safety and protection practices associated with examinations in CT
12. Explain the principles and fundamentals of performing computed tomography
13. Summarize the roles of the technologist during computed tomography exams
14. Describe basic computed tomography practice standards

The CAT 230 course consists of one credit unit with multiple modules. Each module assesses competency through testing that requires the student to successfully demonstrate knowledge.

The first module covers the fundamentals of a CT imaging machine. It utilizes a video and online lecture with a "self-check" point, which is a quiz that contains questions tied to class materials.

The second module covers the components and basic function of a CT imaging machine. This module has a "self-check" point, which is a quiz that contains questions tied to class materials. A final assessment at the end of the module evaluates the student's competency and understanding of all concepts through administration of a short answers and essay quiz.

The third module discusses the steps needed to process CT computer data. This module has a "self-check" point, which is a quiz that contains questions tied to class materials. A final

assessment at the end of the module evaluates the student's competency and understanding of the steps by requiring the student to list and briefly explain them.

The fourth module teaches algorithms and the data used in CT imaging. This module has a "self-check" point, which is a quiz that contains questions tied to class materials. A final assessment at the end of the module evaluates the student's competency and understanding of all concepts through administration of a short answers and essay quiz.

The fifth module covers patient safety when using a CT imaging machine. This module has a "self-check" point, which is a quiz that contains questions tied to class materials. A final assessment at the end of the module evaluates the student's competency and understanding of all concepts through administration of a short answers and essay quiz.

The sixth module provides information on factors that can inhibit the quality of a CT image. This module has a "self-check" point, which is a quiz that contains questions tied to class materials. A final assessment at the end of the module evaluates the student's competency and understanding of all concepts through administration of a short answers and essay quiz.

The seventh module covers proper procedures for performing CT scans on patients. It utilizes a video and online lecture with a "self-check" point, which is a quiz that contains questions tied to class materials.

Proficiency is demonstrated through application of knowledge utilizing short answer essays that include concepts taught in lessons. A final assessment at the end of all modules comprehensively evaluates the student's competency and understanding of all concepts through administration of a final quiz.

Teaching Methods

CAT 230 is taught online. Teaching methods include the use of readings, videos, and practice quizzes that students can conduct on their own time.

Industry Standards and the Course

The CAT 230 course embeds industry standards regarding safe CT imaging, and relative terms and concepts are integrated into the curriculum.