

## Master Syllabus

### **RAT 2641 - Principles of Computed Tomography**

**Division:** Health Sciences

**Department:** Radiologic Technology

**Credit Hour Total:** 2.0

**Lecture Hrs:** 2.0

**Other Prerequisite(s):** Approval of Department

**Date Revised:** February 2014

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#### **Course Description:**

Basic instrumentation and application concepts, including computer and x-ray unit components and their application to protocols for acquiring sectional images of various body systems.

#### **General Education Outcomes:**

- Critical Thinking/Problem Solving

#### **Course Outcomes:**

##### **Acquiring sectional images**

Identify protocols for acquiring computed tomography images of the central nervous system including the brain and spine, thorax, abdomen and pelvis, extremities, and special imaging procedures.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 71% or higher achieved

##### **Radiographic appearance of pathologies**

Identify radiographic appearances of various diseases on computed tomography images.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 71% or higher achieved

##### **Contrast media**

Describe contrast media and methods of administration relative to computed tomography.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 71% or higher achieved

##### **Computed tomography instrumentation**

Describe basic fundamentals of Computed Tomography (CT) instrumentation including hardware, software, x-ray unit components, selectable scan factors, image acquisition and archiving, and image quality factors and artifacts.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 71 % or higher achieved

#### **Outline:**

Technical aspects of equipment  
Selectable scan factors for routine scanning  
Image creation and refinement  
Image display, recording and storage  
Image quality  
Sources of artifacts  
Imaging protocols, contrast agents and pathologies