

# COMPUTED TOMOGRAPHY (CT)

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## Course Descriptions

### **CT 101. Cross-Sectional Anatomy for Computed Tomography. 3 Credit Hours.**

Cross-Sectional Anatomy for Computed Tomography (CT) maps out anatomical structures of the human body in all planes of computed tomography. CT specific imaging characteristics are introduced. Instruction includes anatomical pathology and trauma induced pathology.

Prerequisites: Admission to the Computed Tomography (CT) program and Reading Proficiency

### **CT 102. Principles and Patient Care in Computed Tomography. 3 Credit Hours.**

Principles and Patient Care in Computed Tomography (CT) discusses CT image production of routine, trauma, and procedural exams in the adult and pediatric settings. Evaluation of images for quality, patient positioning, and illustrations of anatomy both with and without contrast agents is introduced. Patient safety topics in preparing for the CT exams utilizing contrast agents is examined. The different types of vascular access devices are analyzed for use with the power injector for contrast administration. The power injector functionality and utilization is assessed.

Prerequisites: Admission to the Computed Tomography (CT) program and Reading Proficiency

### **CT 103. Clinical Practicum I for Computed Tomography. 3 Credit Hours.**

Clinical Practicum I for Computed Tomography (CT) allows students to perform CT exams in the clinical setting to review for quality, accuracy, and completeness. CT procedures consisting of head, spine, musculoskeletal, neck, chest, abdomen, and pelvis are performed. An introduction to the quality assurance program specific to the clinical site is researched. Students document clinical exams performed by the student as required by the American Registry of Radiologic Technologists (ARRT) before taking the registry examination. Students can substitute this course with proof of 360 hours of worked CT time and documented exams that satisfy CT requirements of the ARRT CT registry examination.

Prerequisites: Admission to the Computed Tomography (CT) program and Reading Proficiency

### **CT 104. Physics and Instrumentation in Computed Tomography. 3 Credit Hours.**

Physics and Instrumentation in Computed Tomography (CT) discusses technical components of the CT system as they relate to functionality, radiation physics, and radiation safety for both clinical staff and the patient. Students are introduced to the CT x-ray tube, detector systems, filters, and instrumentation. Additionally, image acquisition, reconstruction, and transfer to picture archiving communication systems are reviewed.

Prerequisites: Admission to the Computed Tomography (CT) program and Reading Proficiency

### **CT 201. Radiation Safety and Quality Management in Computed Tomography. 2 Credit Hours.**

Radiation Safety and Quality Management in Computed Tomography (CT) discusses radiation safety for both clinical staff and the patient along with the different types of dose reduction techniques applicable in computed tomography. The quality review program for maintenance of safe imaging practices is analyzed and discussed. Federal and state regulatory agencies, accreditation agencies, and health organizations are outlined and reviewed.

Prerequisites: CT 101, CT 102, CT 103, and CT 104 with a minimum grade of "C" and Reading Proficiency

### **CT 202. Clinical Practicum II for Computed Tomography. 3 Credit Hours.**

Clinical Practicum II for Computed Tomography (CT) is an enhancement of Clinical Practicum I for CT where students perform CT examinations specific to the American Registry of Radiologic Technologists (ARRT) requirements specific to CT. In addition to the CT exam performance and documentation, students review the types of contrast used in the CT department specific to the clinical site. Students can substitute this course with proof of 360 hours of worked CT time and documented exams that satisfy CT requirements of the ARRT CT registry examination.

Prerequisites: CT 101, CT 102, CT 103, and CT 104 with a minimum grade of "C" and Reading Proficiency

### **CT 203. Registry Review for Computed Tomography. 1 Credit Hour.**

Registry Review for Computed Tomography (CT) prepares the student for the American Registry of Radiologic Technologists (ARRT) CT post-primary registry examination. Key objectives within principles of CT instrumentation, radiation safety, quality management, patient care, and sectional anatomy and pathology are reviewed.

Prerequisites: ARRT or NMTCB Registered Technologist and documentation of 720 hours of clinical CT hours or concurrent or prior enrollment in CT 202 with a minimum grade of "C", and Reading Proficiency