

# COMPUTED TOMOGRAPHY (CTCP)

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## **CTCP 2100. Introduction to Computed Tomography. (2 Credits)**

This course serves as an introduction to computed tomography with an emphasis on basic patient care while in a Computed Tomography department, as well as the history of CT and the components of a CT scanner. Additional topics include patient history, vital signs, laboratory values, contrast agents (oral and intravenous), medical ethics, patient confidentiality, as well as research contributors in CT, historical events, scanner generations, characteristics of radiation, detectors and data acquisition system. Corequisite: Graduation from an accredited Radiology, Nuclear Medicine or Radiation Therapy Program. Prerequisite: Registered Radiologic Technologist, Nuclear Medicine Technologist, or a Radiation Therapy Technologist with the ARRT or Nuclear Medicine Technology Certification Board (NMTCB). Offered: Fall, Spring, Summer.

## **CTCP 2110. Physical Principles, Instrumentation and Quality Control. (3 Credits)**

This course is an overview of the system operation, components and quality control. To be able to understand the different functions and capabilities and identify the components of the CT scanner to provide quality care during a CT examination. Topics include data acquisition, data processing, reconstruction, manipulation, image quality, console, high voltage generator, filter, detectors, and collimation, interpolation and pitch. Corequisite: Graduation from an accredited Radiology, Nuclear Medicine or Radiation Therapy Program. Prerequisite: Registered Radiologic Technologist, Nuclear Medicine Technologist, or a Radiation Therapy Technologist with the ARRT or Nuclear Medicine Technology Certification Board (NMTCB). Offered: Fall, Spring, Summer.

## **CTCP 2120. Sectional Anatomy I (Head, Spine, Chest). (4 Credits)**

This is an overview of cross-sectional anatomy that is imaged during a Computed Tomography examination. The course will provide information about normal head, spine and chest anatomy. Students will be able to identify and recall normal anatomical structures on cross-sectional images in order to perform quality care for patients. Topics include the Circle of Willis, gray/white matter, pons, vertebral body, lamina, spinous process, spinal cord, heart (ventricle/atrium), lungs and ribs. Corequisite: Graduation from accredited Radiology, Nuclear Medicine or Radiation Therapy Program. Prerequisite: Registered Radiologic Technologist, Nuclear Medicine Technologist, or a Radiation Therapy Technologist with the ARRT or Nuclear Medicine Technology Certificate Board (NMTCB). Offered: Fall, Spring, Summer.

## **CTCP 2130. Sectional Anatomy II (Abdomen, Pelvis, Neck, Extremity). (4 Credits)**

This is an overview of cross-sectional anatomy that is imaged during a Computed Tomography examination. This course will provide basic information about normal neck, abdomen, pelvis and extremities anatomy. Students will be able to identify and recall normal anatomical structures on cross-sectional images in order to perform quality care for patients. Topics include the liver, aorta, spleen, pancreas, kidneys, ureters, pelvic girdle, superior mesenteric artery, femoral arteries, popliteal arteries and bony structures such as the ribs, femur, humerus, ankle, shoulder. Corequisite: Graduation from an accredited Radiology, Nuclear Medicine or Radiation Therapy Program. Prerequisite: Registered Radiologic Technologist, Nuclear Medicine Technologist, or a Radiation Therapy Technologist with the ARRT or Nuclear Medicine Technology Certification Board (NMTCB). Offered: Fall, Spring, Summer.

## **CTCP 2140. Clinical Application I. (4 Credits)**

This course introduces students to the clinical setting of a Computed Tomography (CT) department. It allows students to observe and gain knowledge of CT procedures as well as patient care while in the CT department. Introduces the student to the CT scanner, protocols, equipment used, contrast agents, as well as starting to work toward their clinical competencies needed for this course and the American Registry or Radiologic Technologists (ARRT). Corequisite: Graduation from an accredited Radiology, Nuclear Medicine or Radiation Therapy Program. Prerequisite: Registered Radiologic Technologist, Nuclear Medicine Technologist, or a Radiation Therapy Technologist with the ARRT or Nuclear Medicine Technology Certification Board (NMTCB). Offered: Fall, Spring, Summer.

## **CTCP 2150. Clinical Application II. (5 Credits)**

This course is a continuation of the hands-on training about the CT scanner, protocols, equipment, contrast agents, as well as post-processing that was introduced in the previous clinical course. It allows students to become more proficient as well as gain work experience needed to join the workforce as an entry-level technologist and towards the completion of their clinical competencies needed for this course, as well as the American Registry of Radiologic Technologists (ARRT). Corequisite: Graduation from an accredited Radiology, Nuclear Medicine or Radiation Therapy Program. Prerequisite: Registered Radiologic Technologist, Nuclear Medicine Technologist, or a Radiation Therapy Technologist with the ARRT or Nuclear Medicine Technology Certification Board (NMTCB). Offered: Fall, Spring, Summer.