

# RADIATION TECHNOLOGY/ SPECIAL IMAGING (RTSI)

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## Courses

### **RTSI 307. Introduction to Computed Tomography. 2 Units.**

Provides an overview of patient care in CT imaging, general aspects of patient care, pharmacology and drug administration, and radiation safety as a final requirement of the CT certificate. Examines some areas of radiology management. Prepares students for the additional areas required in the National Registry for the specialty area of CT. Prerequisite: Completion of the LLU Medical Radiography Program. Prerequisite: RTMR 305, RTMR 306.

### **RTSI 344. Interventional Pharmacology. 4 Units.**

Studies the various pharmacological agents currently used in diagnosis and treatment during interventional studies of the cardiovascular system. Emphasizes laboratory values relevant to interventional studies.

### **RTSI 345. Cardiac/Interventional Procedures. 3 Units.**

Examines the principles of cardiac interventional imaging to students who wish to become registered CI technologists. Includes the concepts of cardiac interventional procedures and how to operate safely in an operating room environment.

### **RTSI 351. Angio/Interventional Procedures I. 3 Units.**

Analyzes the principles of vascular radiology, including proper patient care, the fundamentals of properly setting up a sterile table, and evaluation of the equipment most commonly used in the interventional suite. Examines the functions of a pressure injector and explores the procedures performed in vascular intervention.

### **RTSI 352. Angio/Interventional Procedures II. 3 Units.**

Continues RTSI 351. Focuses on the procedures performed in the interventional laboratory. Analyzes the different types of pathologies observed in patients in order to determine the appropriate diagnostic and interventional examinations to be performed.

### **RTSI 356. Vascular Anatomy and Physiology. 3 Units.**

Explores normal and pathological vascular anatomy and physiology. Emphasizes intracranial, extracranial, spinal, aorta, pulmonary, abdominal, pelvic, and extremity vascular structures; as well as abnormalities of the vascular system.

### **RTSI 359. Vascular Imaging Review. 1 Unit.**

A comprehensive review for the ARRT examination in vascular interventional radiography (VI). Prerequisite: RTSI 351, RTSI 356.

### **RTSI 360. Cardiac Imaging Review. 1 Unit.**

A comprehensive review for the ARRT examination in cardiac interventional radiography (CI). Prerequisite: RTSI 345.

### **RTSI 361. MRI Physics I. 2 Units.**

Two-part course dealing with basic principles, physics, imaging parameters, biological effects, management, and patient protocol of magnetic resonance imaging (MRI).

### **RTSI 362. MRI Physics II. 2 Units.**

Basic principles, physics, imaging parameters, biological effects, management, and patient protocol of magnetic resonance imaging (MRI). Prerequisite: RTSI 361.

### **RTSI 364. CT Patient Care and Procedures. 2 Units.**

Overview of patient care in CT imaging. General aspects of patient care, pharmacology and drug administration, radiation safety. Examines some areas of radiology management. Prepares students for the additional areas required in the national registry for the specialty areas of CT.

### **RTSI 365. MRI Patient Care and Procedures. 2 Units.**

Includes patient care, safety, pharmacology, quality control, and procedures involved with magnetic resonance imaging (MRI) for MRI technologists.

### **RTSI 367. Cross-sectional Radiographic Anatomy. 2 Units.**

Overview of gross anatomy. Identifies normal anatomy in two-dimensional as well as three-dimensional planes. Relation of the structural as well as the physiological functions of the different body systems.

### **RTSI 369. CT Physics. 2 Units.**

Basic principles, physics, imaging parameters, radiological effects, management, and patient protocol of computed tomography (CT).

### **RTSI 384. Topics in Special Imaging. 1-3 Units.**

Lecture and discussion of a current topic in special imaging bearing on the theory or practice of one aspect of the discipline. Specific content varies from quarter to quarter.

### **RTSI 455. Directed Study in Special Imaging. 1 Unit.**

Each student will be assigned three specialized imaging topics for the quarter. Requires submission of an Independent Study Proposal (ISP) and weekly meeting with instructor to review progress toward meeting the commitments within the ISP.

### **RTSI 970. Special Imaging (CT/MRI) Affiliation. 2,3 Units.**

A two- or four-days/week clinical rotation totaling 160-240 hours of clinical experience in CT (computerized tomography) and/or MRI (magnetic resonance imaging) covering a wide variety of technical procedures.

### **RTSI 975. Cardiac/Interventional (CVI) Affiliation. 3 Units.**

Provides a four-day-per-week clinical rotation totaling 320 hours of clinical experience in cardiac and/or interventional radiology. Covers a wide variety of technical procedures.