

# RADIOLOGIC SCIENCE (RADI)

## Additional Resources

- Catalog Course Search (<https://catalog.unc.edu/course-search/>)
- Course Numbering Guide (<https://catalog.unc.edu/courses/course-numbering/>)
- Scheduled Classes (<https://reports.unc.edu/class-search/>)
- Historical Course Record ([https://reports.unc.edu/historical\\_course\\_record/](https://reports.unc.edu/historical_course_record/))

## Courses

### RADI 432. Concepts and Perspectives in Radiologic Science. 1 Credits.

This overview of radiologic science encompasses patient care, imaging modalities for diagnosis and treatment, radiation protection, health care trends, and information management systems. Pass/Fail course.

#### Rules & Requirements

**Grading Status:** Pass/Fail.

### RADI 440. Gross Anatomy for Health Sciences. 3 Credits.

This course includes lecture and lab sessions to strengthen knowledge of human anatomy and to guide the application of this material for medical imaging. Students will participate in laboratory activities to better understand the spatial relationships between anatomic regions and specific structures. The emphasis of the course is on thoracic, abdominal, pelvic, and musculoskeletal anatomy. Course previously offered as AHSC 440. Radiologic Science majors only.

#### Rules & Requirements

**Requisites:** Prerequisites, BIOL 252 and 252L.

**Grading Status:** Letter grade.

### RADI 442. Introduction to Radiologic Science. 3 Credits.

Majors only. Lectures, discussions, demonstrations, and laboratory exercises are combined to introduce topics including patient assessment, image characteristics, radiation protection, positioning skills, medical terminology, and the role of imaging sciences in health care.

#### Rules & Requirements

**Grading Status:** Letter grade.

### RADI 461. Radiography I. 4 Credits.

Prepares students for standard radiography of upper extremities, lower extremities, axial skeleton, bony thorax, chest, abdomen, and the basic skull, considering pathologies and gross, radiographic, and cross-sectional anatomy. Three lecture hours and two laboratory hours.

#### Rules & Requirements

**Requisites:** Prerequisites, HSCI 440 and RADI 442.

**Grading Status:** Letter grade.

### RADI 462. Radiographic Imaging I. 4 Credits.

An overview of radio-graphic imaging methods examining the imaging process as a sequence of events from X-ray production through hard copy processing. The imaging equipment is discussed in terms of function, influence on the image, the impact of alteration on image characteristics, and compensation techniques for changes in the sequence. Three lecture hours and two laboratory hours.

#### Rules & Requirements

**Requisites:** Prerequisites, HSCI 440 and RADI 442.

**Grading Status:** Letter grade.

### RADI 463. Clinical Education I. 4 Credits.

A clinical course focusing on the application and evaluation of radiography in the hospital setting. With supervision, the student develops clinical skills through observation and participation in radiographic procedures. Twenty practicum hours.

#### Rules & Requirements

**IDEAs in Action Gen Ed:** HI-INTERN.

**Making Connections Gen Ed:** EE- Academic Internship.

**Requisites:** Prerequisites, HSCI 440 and RADI 442.

**Grading Status:** Letter grade.

### RADI 465. FOUNDATIONS IN RAD THER. 4 Credits.

#### Rules & Requirements

**Grading Status:** Letter grade.

### RADI 466. Abdominal Sonography. 4 Credits.

Diagnostic Medical Sonography track. The course includes intra-abdominal organs, abdominal vessels, peritoneal spaces, and retroperitoneal structures and introduces normal/abnormal sonographic findings. Integration of findings with clinical history, exam, and laboratory findings are included along with skills with scanning protocols, technical factors, and image quality developed in the lab. Majors only.

#### Rules & Requirements

**Requisites:** Prerequisites, HSCI 440 and RADI 442.

**Grading Status:** Letter grade.

### RADI 467. Ultrasound Principles and Instrumentation. 4 Credits.

Diagnostic Medical Sonography Track. The course provides comprehensive instruction on the principles of ultrasound, including wave characteristics and propagation, acoustic variables, transducers, pulsed waves, real time imaging, and image display and image archiving. More topics include Doppler physics, equipment instrumentation and operation, quality assurance, and biological effects of ultrasound. Majors only.

#### Rules & Requirements

**Requisites:** Prerequisites, RADI 440 and RADI 442.

**Grading Status:** Letter grade.

### RADI 471. Radiography II. 3 Credits.

The course content prepares students for standard radiography of cranial bones, facial bones, and special cranial projections. Contrast studies include gastrointestinal, urinary, biliary, cardiovascular, and other special procedures. The course includes pathologies, and gross, radiographic, and cross-sectional anatomy. Two lecture hours and two laboratory hours.

#### Rules & Requirements

**Requisites:** Prerequisite, RADI 461.

**Grading Status:** Letter grade.

### RADI 472. Radiographic Imaging II. 4 Credits.

A detailed study of specific elements of the radiographic process, with an emphasis on the interrelationships of the radiographic parameters, refinement of image analysis and problem-solving skills, and quality control testing for evaluating the performance of the radiographic equipment and accessories. Three lecture hours and two laboratory hours.

#### Rules & Requirements

**Requisites:** Prerequisite, RADI 462.

**Grading Status:** Letter grade.

**RADI 473. Clinical Education II. 4 Credits.**

A continuation of RADI 463 with emphasis on the application and evaluation of more complex radiographic studies. Twenty practicum hours.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 463.

**Grading Status:** Letter grade.

**RADI 474. Obstetrics and Gynecology Sonography. 4 Credits.**

Normal and abnormal anatomy/physiology/sonographic features of the nonpregnant and gravid female pelvis. Normal and abnormal fetal growth and anatomy, fetal well-being, and sonographic measurements associated with the second and third trimesters of pregnancy are included in the content. Students will engage in correlations of sonographic findings with patient clinical history, clinical exam, and laboratory findings. Lab skills covered: scanning protocols, technical factors, and image quality. Majors only.

**Rules & Requirements**

**Requisites:** Prerequisites, RADI 466 and 467.

**Grading Status:** Letter grade.

**RADI 478. Sonographic Imaging I. 4 Credits.**

This course presents topics of advanced sonographic imaging techniques including advanced abdomen and obstetric concepts, superficial structures, pediatrics, introduction to vascular, and interventional procedures. This course presents the normal and abnormal sonographic findings, along with the relationship of these findings to patient clinical history, clinical exam, and laboratory findings. Skills related to scanning protocols, technical factors, and image quality are developed in the lab. Majors only.

**Rules & Requirements**

**Requisites:** Prerequisites, RADI 466 and 467.

**Grading Status:** Letter grade.

**RADI 479. Advanced Imaging in Sonography II. 4 Credits.**

This course continues topics of advanced sonographic imaging techniques and presents new technologies, superficial structures, pediatrics, advanced obstetrics, and transplants. This course also presents the normal and abnormal sonographic findings of these structures along with relationships of these findings to patient clinical history, clinical exam, and laboratory findings. Skills related to protocols, technical factors, and image quality are developed in the lab. Majors only.

**Rules & Requirements**

**Requisites:** Prerequisites, RADI 466, 467, 474, and 478.

**Grading Status:** Letter grade.

**RADI 574. Clinical Education III. 3 Credits.**

Under general supervision, the student will function at an increased level of responsibility in general diagnostic radiography in a variety of clinical settings outside of the university setting.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 473.

**Grading Status:** Letter grade.

**RADI 575. Clinical Education IV. 5 Credits.**

Under general supervision, the student will function at an increased level of responsibility in radiography in clinical settings outside of the university setting. The course includes a comprehensive review examination and case studies.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 574.

**Grading Status:** Letter grade.

**RADI 583. Clinical Education V. 4 Credits.**

A clinical course utilizing contract learning to provide students an opportunity to gain additional competency in specialized areas of radiology. Twenty-four education and independent study hours.

**Rules & Requirements**

**Requisites:** Prerequisites, RADI 574 and 575.

**Grading Status:** Letter grade.

**RADI 584. Clinical Education VI. 6 Credits.**

This course is a continuation of RADI 583 using learning contracts to allow students to explore and gain additional expertise in various areas of radiology. Twenty-four clinical hours.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 583.

**Grading Status:** Letter grade.

**RADI 585. Radiologic Health Physics. 3 Credits.**

A course in the physics of diagnostic radiology, including radiation effects on tissue, radiation detection and measurement, protection methods and techniques, and environmental radiation issues. Three lecture hours.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 472; permission of the instructor for students lacking the prerequisite.

**Grading Status:** Letter grade.

**RADI 586. Research in Radiologic Science I. 1 Credits.**

Majors only. The major part of the course is devoted to an investigative project on a discipline-related topic of student interest. Select issues affecting professional affairs of radiologic technologists are also included.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 591. Practicum in Radiologic Science. 4 Credits.**

This course offers an elective clinical experience in an area of student interest.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 584.

**Grading Status:** Letter grade.

**RADI 594. Professional Communications and Interactions. 3 Credits.**

Majors only. This course provides for a brief cognitive and skills approach to communication skills, the teaching/learning process, and methods and materials of instruction and delivery. Three lecture/discussion hours per week.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 597. Leadership in Radiologic Science. 3 Credits.**

Majors only. In this course students will analyze the theoretical literature on leadership and apply that knowledge in the analysis of various radiology environment situations. Three lecture hours.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 660. Pathophysiology. 3 Credits.**

Majors only. This course will enhance and integrate the student's knowledge of anatomy, physiology, and pathology related to all human body systems. Emphasis will be placed on understanding how structure, function, and disease are interrelated. Three lecture hours per week.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 662. Instrument and Imaging Methods. 4 Credits.****Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 670. Integrated Principles of Imaging Analysis. 4 Credits.**

This course involves students in situational problem solving and radiographic analysis. Integration of concepts and knowledge of anatomy, pathology, procedures, patient care, and imaging principles are emphasized. Four lecture hours.

**Rules & Requirements**

**Requisites:** Prerequisite, RADI 660.

**Grading Status:** Letter grade.

**RADI 672. Radiographic Imaging II. 4 Credits.**

A detailed study of specific elements of the radiographic process, with an emphasis on the interrelationships of the radiographic parameters, refinement of image analysis and problem-solving skills, and quality. Three lectures hours and two laboratory hours.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 681. Trends in Medical Imaging Practices Issues in the Radiology Practice Environment. 3 Credits.**

Majors only. The course covers issues related to health care systems, medicolegal ethics, and practice and quality assurance. Three lecture hours per week.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 686. Research in Radiologic Science II. 2 Credits.**

Majors only. Students complete a research project involving a major clinical or policy issue in radiologic science. This course is an expansion of the fall semester research culminating in both a paper and presentation.

**Rules & Requirements**

**Grading Status:** Letter grade.

**RADI 694. Clinical Decisions in Radiology. 3 Credits.**

Majors only. This course involves the pharmacology of common radiology medications and advanced patient assessment techniques. With the additional knowledge and skills, students can make informed decisions regarding patient care. Three lecture hours.

**Rules & Requirements**

**Grading Status:** Letter grade.