

# RADIOLOGIST ASSISTANT (RA)

## **RA 505. Clinical Pharmacology I. 3 Credits.**

This education course covers the classification, mechanism of action, toxicity and clinical use of therapeutics agents. Side effects, indications, dose response and management of therapeutics are emphasized.

**Prerequisites:** None

**Offered:** Every year, Summer

## **RA 518. Imaging Pathophysiology. 3 Credits.**

The content focuses on the characteristics and manifestations of disease caused by alterations or injury to the structure or function of the body. Concepts basic to pathophysiology as well as common disease conditions are studied and serve as prototypes in understanding alterations that occur in the major body systems. Emphasis is placed on the characteristic manifestations and image correlation with these pathologies observed through diagnostic imaging. For radiologist assistant majors only.

**Prerequisites:** None

**Offered:** Every year, Fall

## **RA 520. Radiation Safety and Health Physics. 2 Credits.**

This course provides an understanding of the protection of individuals from the harmful effects of ionizing radiation. Content includes an overview of the regulatory bodies and patient radiation safety regulations affecting the diagnostic imaging environment. The interaction of ionizing radiation with matter, units of exposure and dose, radiation detection and measurement devices are considered. Practical techniques and QA/QC procedures for reducing patient and operator risk of exposure to ionizing radiation are discussed.

**Prerequisites:** None

**Offered:** Every year, Summer

## **RA 530. Image Critique and Pathologic Pattern Recognition I. 3 Credits.**

Basic imaging interpretation skills are presented to differentiate normal and abnormal structures in the skeletal, respiratory and cardiovascular systems, head and soft tissue neck across the lifespan. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation. Protocols for drafting memoranda of initial observations based on image assessment are included. Guest lectures are provided. This course also includes imaging post processing. The content is designed to establish knowledge in the fundamentals of digital image post processing that support guided skill development using clinical based imaging workstations.

**Prerequisites:** None

**Offered:** Every year, Fall

## **RA 531. Image Critique and Pathologic Pattern Recognition II. 3 Credits.**

Basic imaging interpretation skills are presented to differentiate normal and abnormal structures in breast, gastrointestinal and genitourinary systems across the lifespan. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation. Protocols for drafting memoranda of initial observations based on image assessment are included. Guest lectures are provided. This course also includes image post processing. The content is designed to establish a knowledge of the fundamentals of digital image post processing that support guided skill development using clinical based imaging workstations.

**Prerequisites:** None

**Offered:** Every year, Spring

## **RA 532. Interventional Procedures I. 3 Credits.**

This course focuses on invasive procedures expected to be performed by the radiologist assistant. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation with an assessment of need for interventional procedures across the lifespan. Procedures related to skeletal, respiratory and cardiovascular and head and neck systems are discussed, including but not limited to arthrograms, lumbar punctures, PICC, central venous lines, venogram, fistulograms, organ biopsies and thoracentesis. Quality improvement methods are emphasized.

**Prerequisites:** None

**Offered:** Every year, Fall

## **RA 535. Interventional Procedures II. 3 Credits.**

This course focuses on invasive procedures expected to be performed by the radiologist assistant. Students develop an understanding of the correlation of anatomy, pathology and physiology as it relates to radiologic imaging and interpretation with an assessment of need for interventional procedures. Procedures related to the breast, gastrointestinal and genitourinary systems across the lifespan are discussed, including but not limited to breast aspiration, nephrostogram, loopogram, gastric and T-tube check, organ biopsies and paracentesis. Quality improvement methods are emphasized.

**Prerequisites:** None

**Offered:** Every year, Spring

## **RA 545. Research Methods and Design. 3 Credits.**

Students explore ethical issues in medical research, develop a research project, collect data and perform analysis using statistical programs for computers. A presentation is developed and various computer presentation techniques are employed to present student project data. Students work individually on the project and require the approval of the instructor to pursue a particular topic.

**Prerequisites:** None

**Offered:** Every year, Fall

## **RA 550. Clinical Seminar I. 1 Credit.**

This distance education course requires students to present a minimum of two case studies during the academic semester. Based on the case study requirements of the radiologist assistant examination criteria, each student is responsible for patient history, clinical correlation, explanation of imaging procedures, evaluation of imaging studies and identification of pertinent anatomy. Students may choose a minimum of one modality for discussion per case study. Students are required to participate in discussions regarding each weekly case study.

**Prerequisites:** None

**Offered:** Every year, Spring

## **RA 551. Clinical Seminar II. 1 Credit.**

This distance education course requires students to present a minimum of two case studies during the academic semester. Based on the case study requirement of the radiologist assistant examination, students are responsible for patient history, clinical correlation, explanation of imaging procedures, evaluation of imaging studies and identification of pertinent anatomy.

**Prerequisites:** None

**Offered:** Every year, Summer

**RA 552. Clinical Seminar III.****3 Credits.**

This distance education course requires students to present a minimum of two case studies during the academic semester. Based on the case study requirement of the radiologist assistant examination, students are responsible for patient history, clinical correlation, explanation of imaging procedures, evaluation of imaging studies and identification of pertinent anatomy.

**Prerequisites:** None**Offered:** Every year, Fall**RA 570. Radiologist Assistant Clinical I.****3 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical three consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. The experience also includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Prerequisites:** None**Offered:** Every year, Spring**RA 571. Radiologist Assistant Clinical II.****5 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical four consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. The experience also includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Prerequisites:** None**Offered:** Every year, Summer**RA 572. Radiologist Assistant Clinical III.****5 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical five consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. In addition, experience includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Prerequisites:** None**Offered:** Every year, Fall**RA 573. Radiologist Assistant Clinical IV.****5 Credits.**

This course provides students with a clinical experience over a 15-week period. Students are required to attend clinical five consecutive days per week. The areas of experience include general radiography, fluoroscopic procedures and interventional procedures. In addition, experience includes advanced imaging modalities such as magnetic resonance imaging, computer tomography, mammography, positron emission tomography and ultrasound. Application of skills related to patient care and management, radiographic pattern recognition and procedural variances are employed. Students must complete American Registry of Radiologic Technologists competency requirements.

**Prerequisites:** None**Offered:** Every year, Spring**RA 590. Thesis I.****1 Credit.**

The focus of this course is to further develop the paper written in RA 545. Students work on improving the abstract; introduction and literature review; developing the results, discussion, conclusion and recommendation sections of the thesis. At the conclusion of the course the student should have rough draft of a five-chapter thesis.

**Prerequisites:** None**Offered:** Every year, Spring**RA 591. Thesis II.****2 Credits.**

This course is a continuation of RA 590 Thesis I. Each student produces a final five-chapter thesis and is required to present the completed thesis.

**Prerequisites:** None**Offered:** Every year, Summer