

**COURSE DESCRIPTIONS**  
**Hudson County Community College Radiography Program**

Class of 2020

Ad: 6/15; 10/15; 7/16; 8/16; 1/17; 3/17;7/17

The curriculum for the 24 month program is as follows:

**Didactic and Clinical Courses**

**Pre/Co-Requisites**

**RAD 101- 60 hrs      Radiography I**

**Pre-None  
Co-Rad 104**

**Course Description:**

Content is designed to provide an overview of the general principles of patient care, ethics and medico-legal standards. Principles of mathematical formulas, prime factors and electromagnetic energy are introduced. Equipment operation introduces the use of grids, computer, and digital imaging processing, and all components involved in image production. The foundation of radiation protection and safety standards in radiographic imaging is emphasized. Introduction to Radiologic Science and its relationship in the health care system is covered. Learning the basics of medical terminology for use in the health care environment is given.

**RAD 104- 45 hrs      Radiographic Imaging I/Lab**

**Pre-None  
Co-Rad 101**

**Course Description:**

In this first course, anatomy and positioning terminology and their procedure protocols for chest, abdomen, and upper extremity are presented. Demonstration of applicable factors and radiation protection methods are learned in order to achieve quality radiographs while providing compassionate and optimum patient care. Clinical lab experience will compliment didactic instruction.

**CLP 1 -154 hrs**

**Clinical Practicum 1**

**Pre-None  
Co-Rad 104**

**Practicum Description:**

This first clinical practicum will introduce the radiography student to the day-to-day operations of clinical practice in a radiology department. CLP 1 provides the student with opportunities to apply those theories learned in RAD 101 and RAD 104 in the areas of departmental procedures, routines, and radiography of the chest, abdomen, and upper extremities. Students will rotate through various clinical sites and areas under the direct supervision of a qualified registered technologist. Latter portions of this course will allow the students to begin documenting and testing on studies that have been presented in RAD 101 and RAD 104, once the clinical laboratory and classroom testing has been completed. This course provides the student with mastery skills in learning how to function in an imaging department. Students will participate in clinical learning 2 days per week.

**RAD 102- 60 hrs      Radiography II**

**Pre-Rad 101;104; CLP 1  
Co-Rad 105; CLP 2**

**Course Description:**

Content builds upon the foundation of image production identifying the prime components of radiographic image quality and its control. Equipment operation types along with basic QC and QA testing are covered. Radiation protection and biology discuss radiation interaction with atoms and cellular structures. Patient care methodologies are continued emphasizing imaging techniques for mobile, OR and trauma patients. Computer Science principles, digital equipment, image display, CR, and DR are expanded upon.

**RAD 105- 45 hrs      Radiographic Imaging II/ Lab**

**Pre- Rad 101;104; CLP 1  
Co- Rad 102; CLP 2**

**Course Description:**

In this second course of imaging series, anatomy and positioning terminology and their procedure protocols for lower extremity, shoulder and pelvic girdles, ribs and sternum as well as pediatric and geriatric methodologies are learned. Patient care protocols are always emphasized. Clinical lab experience will compliment didactic instruction.

**CLP 2- 224 hrs**

**Clinical Practicum 2**

**Pre- Rad 101; 104; CLP 1**

**Co- Rad 102; 105**

**Practicum Description:**

This second clinical practicum will allow the student to continue to perform radiographic examinations under the supervision of a qualified radiographer. Emphasis will be placed upon continued improvement of imaging skills and speed in performing examinations. CLP 2 provides the student with opportunities to apply those theories learned in RAD 102 and RAD 105 in the areas of departmental procedures, routines, and radiography of the shoulder and pelvic girdles, lower extremity, ribs and sternum and Pediatric and Geriatric Imaging. Mobile and Operating Room procedures are also taught as the student learns how to image the non- traditional patient. Students will continue to rotate through various clinical sites and areas under the direct supervision of a qualified registered technologist. Students will participate in clinical learning 2 days per week.

**RAD 103- 30 hrs**

**Radiography III**

**Pre- Rad 101;104;102;105; CLP 1; 2**

**Co- Rad 106; CLP 3**

**Course Description:**

Patient Care introduces the relationship of pharmacology to contrast media studies along with learning venipuncture technique and patient assessment skills. Principles of exposure will summarize the relationship of x-ray equipment, exposure charts, Radiographic Math, and the basic understanding of technical factor usage. Advanced modalities, such as CT and Interventional Radiography are covered to help prepare students for senior year clinical rotations. A brief overview of additional modalities and patient treatments is presented.

**RAD 106- 15 hrs**

**Radiographic Imaging III/ Lab**

**Pre- Rad 101;104;102;105; CLP 1; 2**

**Co- Rad 103; CLP 3**

**Course Description:**

In this third course of imaging series, anatomy and positioning terminology and their procedure protocols for the entire spinal column are presented. Patient Care protocols are always emphasized. Clinical lab experience will compliment didactic instruction.

**CLP 3- 189 hrs**

**Clinical Practicum 3**

**Pre- Rad 101;104;102;105; CLP 1; 2**

**Co- Rad 106; 103**

**Practicum Description:**

This third clinical practicum will allow the student to continue to perform radiographic examinations under the supervision of a qualified radiographer. Emphasis will be placed upon continued improvement of imaging skills and speed in performing examinations. CLP 3 provides the student with opportunities to apply those theories learned in RAD 103 and RAD 106 in the areas of departmental procedures, routines, and radiography of the entire spinal column. Students will continue to rotate through various clinical sites and areas under the direct supervision of a qualified registered technologist. Students will participate in clinical learning 2-3 days per week

**RAD 204- 60 hrs**

**Radiography IV**

**Pre- Rad 101;104;102;105;103; CLP 1; 2; 3**

**Co- Rad 207; CLP 4**

**Course Description:**

Advanced principles of digital radiography along with introduction to digital peripheral equipment will be discussed. Digital equipment for routine fluoroscopy imaging is taught. Quality Management including continuous quality improvement and quality assurance is covered. Radiographic Pathology introduces the concepts of diseases and etiology related to radiographic imaging. Students will create and give a verbal presentation on a Critical Thinking radiographic analysis project affirming their understanding of image production, equipment, evaluation, and Pathology.

**RAD 207- 45 hrs**

**Radiographic Imaging IV /Lab**

**Pre- Rad 101;104;102;105;103; CLP 1; 2; 3**

**Co- Rad 204; CLP 4**

**Course Description:**

In this last course of imaging series, anatomy and positioning terminology and their procedure protocols for contrast studies, skull, and advanced studies such as Myelography, Arthrography and ERCP are learned. Patient care protocols are always emphasized. Clinical lab experience will compliment didactic experience.

**CLP 4- 336 hrs.**

**Clinical Practicum 4**

**Pre- Rad 101; 104; 102; 105; 103; CLP 1; 2; 3**

**Co-Rad 204; 207**

**Practicum Description:**

This fourth clinical practicum will allow the student to continue to perform radiographic examinations under the supervision of a qualified radiographer. Emphasis will be placed upon continued improvement of imaging skills and speed in performing examinations. CLP 4 provides the student with opportunities to apply those theories learned in RAD 204 and RAD 207 in the areas of departmental procedures, routines, and radiography of contrast studies, cranium and Advanced Modalities. Students will continue to rotate through various clinical sites and areas under the direct supervision of a qualified registered technologist. Students will participate in clinical learning 3 days per week.

**RAD 205- 60 hrs.**

**Radiography V**

**Pre- Rad 101;104;102;105;103;204;207; CLP 1; 2; 3; 4**

**Co- CLP 5**

**Course Description:**

This course is a Review of RAD 101, 102, 103, & 204. General Review will cover in detail all previous learned subjects such as Digital radiography, circuit tube construction, comparison of atomic interactions effect on exposure with ALARA and principles of exposure incorporating technical factor conversions for the control panel, along with understanding the relationship of patient body habitus and patient dosage. Online ARRT certification exam review programs begin.

**CLP 5- 336 hrs.**

**Clinical Practicum 5**

**Pre-Rad101;104;102;105;103;204;207; CLP 1; 2; 3; 4**

**Co- Rad 205**

**Practicum Description:**

This fifth clinical practicum will allow the student to continue to perform radiographic examinations under the supervision of a qualified radiographer. Emphasis will be placed upon continued improvement of imaging skills, speed in performing examinations, and use of critical thinking skills where problem solving is based on acceptable standards of practice. CLP 5 provides the student with opportunities to apply those theories learned in RAD 205 in the areas of departmental procedures and routines and all previous Rad. Imaging courses – RAD 104, 105, 106, 207. Students will continue to rotate through various clinical sites and areas under the direct supervision of a qualified registered technologist. Students will participate in clinical learning 3 days per week.

**RAD 208-15 hrs.**

**Radiography VI**

**Pre- Rad101;104;102;105;103;204;207;205; CLP 1; 2; 3; 4; 5**

**Co- CLP 6**

**Course Description:**

A general comprehensive review of all learned material prepares the student for the upcoming ARRT national registry examination. Content Specifications, test taking preparation, and continuing education opportunities will be discussed. Students will be required to pass mock simulated registry exams and comprehensive tests by the required 80% grade in order to pass this final course in order to graduate. This final course does not have a Retest option.

**CLP 6 – 196 hrs.**

**Clinical Practicum 6**

**Pre-Rad101;104;102;105;103;204;207;205;CLP 1; 2; 3; 4; 5; 6**

**Co-Rad 208**

**Practicum Description:**

This sixth final clinical practicum will allow the student to continue performing radiographic examinations under the supervision of a qualified radiographer in order to complete graduation requirements. The clinical setting of CLP 6 is structured to coordinate completing the remaining competency evaluations with greater expectation of improved clinical skills, use of critical thinking skills by evaluating clinical situations where problem solving is based on acceptable standards of practice and gaining understanding of the management of radiology departments to benefit their employment opportunities. Students will continue to rotate through various clinical sites and areas under the direct supervision of a qualified registered technologist. Students will participate in clinical learning 2-3 days per week.

**Advanced Mandatory Clinical Rotations:**

In order that the student may become aware of other modalities for future professional growth, the program will schedule senior students in the following modalities in addition to their regular clinical rotations in diagnostic imaging.

1. Interventional Radiography (IR)

2. Computed Tomography (CT)