

# **RAD 112L - RADIOGRAPHIC ANATOMY & POSITIONING LABORATORY**

**Fall 2016**

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**COURSE SCHEDULE: Two Laboratory session/week: MF or WF various times.**

## **COURSE DESCRIPTION:**

This course is the Laboratory to accompany RAD 112. Designed to provide the student radiographer with hands-on radiographic positioning experiences, in an energized X-ray room, leading to the development of clinical competencies. It serves as a foundation for the development of advanced clinical skills. The competencies developed are chest, abdomen, upper and lower extremities, pelvic girdle, spine and digestive system. The bony anatomy of these areas will be stressed. Some emphasis is placed on the soft-tissue structures demonstrated by radiographs of these areas. Routine positioning common to most health care facilities will be described and demonstrated. If images are taken, phantoms are used in the energized X-ray Labs.

## **COURSE OBJECTIVES**

1. Describe and demonstrate the body planes and associated medical terminology.
2. Apply the terminology associated with diagnostic radiography.
3. Given a diagram and/or radiograph locate the anatomy specific to the upper extremity, shoulder girdle, chest, bony thorax and abdomen.
4. Given a diagram and/or radiograph locate the anatomy specific to the lower extremity, pelvic girdle, and vertebral column.
5. Demonstrate competency in operating all functioning locks on the X-ray tube, X-ray table, the control panel, and the digital image processor.
6. Given the exposure factors for a specific body part, calculate the appropriate mAs and kVp values, to produce a desirable radiograph containing an image quality that is equal to, or better than the image quality displayed in the Merrill's positioning atlases.
7. Identify the anatomy visualized on images produced in the lab settings.
8. Apply the principles of radiation protection in the lab setting.
9. Apply the concepts of radiographic positioning in the lab setting

This course serves as a foundation for the development of basic clinical competencies. It is taken concurrently with RAD 112. If RAD 112 is dropped, then RAD 112L is dropped.

*Please note: This course requires student to student, or instructor to student physical contact appropriate and necessary to demonstrate, teach, or learn the principles of radiographic positioning. Any student who is unable or unwilling to participate in such contact should discuss this concern with the course instructor immediately.*

Principles of radiation protection for the patient and the radiographer are practiced. Therefore, each student is required to wear a personal radiation exposure monitoring badge (dosimeter) during each Lab session. The University will supply this dosimeter. If the student's dosimeter is lost, stolen or damaged, the student is charged \$10.00 to replace it.



6. Given the exposure factors for a specific body part, calculate the appropriate mAs and kVp values, to produce a desirable radiograph containing a position quality that is equal to, or better than the Position quality displayed in the Merrill's positioning atlases.
7. Apply the principles and concepts of radiographic positioning in the Lab and in the clinical settings.
8. Apply the terminology associated with diagnostic radiography.

**GENERAL TOPICAL OUTLINE:**

- I. Introduce Course & Lab Orientation
- II. Positioning Terminology (Nomenclature)
  - A. Body planes
  - B. Body positions
  - C. Related terminology
- III. Exposure Factors & Radiation Protection
  - A. Sources of radiation
  - B. Measuring radiation
  - C. Exposure factors
    1. Milliamperere-seconds calculations (mAs)
    2. Kilovoltage peak (kVp)
  - D. Cardinal Principles of radiation exposure
  - E. Radiation dose limits
    1. Annual limit
    2. Cumulative limit
    3. Embryo-Fetus limit
- IV. Upper Extremity
  - A. Hand
  - B. Wrist
  - C. Forearm
  - D. Elbow
  - E. Humerus
  - F. Shoulder girdle
    1. Scapula
    2. Clavicle
    3. Shoulder joint
    4. A-C Joints
- V. Thoracic Cavity
  - A. Ribs
  - B. Chest/Lungs
  - C. Sternum
- VI. Abdomen
  - A. Bony structures
  - B. Soft tissue structures
- VII. Lower Extremity
  - A. Foot
  - B. Ankle

- C. Knee and Patella
- D. Femur
- E. Pelvic girdle
  - 1. Hip
  - 2. Pelvis
  - 3. Sacroiliac joints (S-I Jts.)

VIII. Vertebral Column

- A. Sacrum and Coccyx
- B. Lumbar spine
- C. Thoracic spine
- D. Cervical spine

**ACADEMIC HONESTY:**

All students are expected to adhere to a strict code of academic honesty. Academic honesty is addressed according to the “Policies and Procedures Applicable to Academic Dishonesty” as stated in the “2016-2013 Guide to Important Information for Students, Faculty and Staff” pdf [www.studentlife.siu.edu/Documents/Info%20Booklet%20FINAL%20for%202016-2013.pdf](http://www.studentlife.siu.edu/Documents/Info%20Booklet%20FINAL%20for%202016-2013.pdf) .

**ACTS OF ACADEMIC DISHONESTY**, from the “SIUC Student Conduct Code”, section II Violations, article A

([www.policies.siu.edu/documents/StudentConductCodeFINALMAY32016.pdf](http://www.policies.siu.edu/documents/StudentConductCodeFINALMAY32016.pdf)):

- A. Plagiarism, representing the work of another as one’s own work;
- B. Preparing work for another that is to be used as that person’s own work;
- C. Cheating by any method or means;
- D. Knowingly furnishing false information to a University official relative to academic matters;
- E. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this code.

Penalties will be imposed for violations of this policy in accordance with the SIUC Student Conduct Code. These penalties may include one or more of the following disciplinary measures for a case of academic dishonesty:

- A grade of zero (0) for the assignment, Lab, quiz or test.
- An “F” for the entire course.
- Recommendation of dismissal from the Program.

**METHODOLOGY:**

Students are required to keep current on the daily reading assignments and to complete the learning activities/review exercises for each area of the body. Student use of class positioning notes is permitted and strongly encouraged in Lab on Monday and Wednesday.

Beginning the second week of the semester, there will be a Lab test (Lab Comp--a closed-book performance test) each Friday. These tests are based on the Lab work performed on Monday and/or Wednesday.

Each Lab competency test is based on the following materials:

- |    |                    |    |                              |
|----|--------------------|----|------------------------------|
| 1. | Topical objectives | 3. | Class notes                  |
| 2. | Textbook readings  | 4. | Workbook activities/Handouts |

Each Lab comp test will require the student to identify, apply knowledge, and make judgments based upon the learned material. Radiographs produced for a Lab Comp must demonstrate a position quality and the positioning skills equal to or better than that displayed in the Merrill's Positioning Atlases.

### **STUDENT EVALUATION & GRADING:**

Each Lab competency exam score will be converted into an appropriate percentage. For the final course grade, an average percentage will be calculated, and weighted according to the following criteria:

|   |            |
|---|------------|
| 14 Lab Tests (Lab Comps)  | 75%        |
| <u>Mid-Term Lab Practical Exam &amp; Final Lab Practical Exam</u> | <u>25%</u> |
| Total   | 100%       |

During the summer between the junior and senior years, each radiography student will take the National Board Exam in Radiography, administered by the American Registry of Radiologic Technologists (ARRT). This 220 question test has a minimum passing score of 75%. Therefore, to better prepare our students to take and pass this National Board Exam, the Radiologic Sciences Program uses a grading scale that is more stringent than the rest of the University.

#### **Grading Scale:**

- 93 - 100 - A -- exceptionally high achievement
- 85 - 92 - B -- high achievement
- 75 - 84 - C -- satisfactory achievement
- 0 - 74 - F -- unsatisfactory achievement

Each Radiography student is expected to achieve at least 75% accuracy on the individual Lab Comps. Any student receiving **a total score of 74% or less** on a Lab Comp **will recomp** (retest) that exam **prior** to the end of the fall semester. Lab recomps must be scheduled with the appropriate Lab instructor at his/her convenience. The first lab recomp will automatically have a 90% as the highest score that can be attained. If a second recomp is needed, the highest score to be given to the student will be an 80%.

**Please note: When recomping a Lab exam, the student is expected to know how to correct the original mistakes to produce radiographs of the same quality (or better) as in the Merrill's Positioning Atlases.**

All Radiography students must pass each of their Radiologic Sciences prefix courses (RAD) with a grade of "C" or better in order to satisfy Program requirements, to graduate, and to pass the National Board Exam in Radiography. This grade of "C" or better is based upon the Radiologic Sciences grading scale.

Any Radiography student that fails a Radiologic Sciences course will not continue in our Program. When course failure occurs, the student will meet with the appropriate faculty member and academic advisor to discuss the student's future educational plans/goals. This discussion may include referring the student to the University Career Services office ([www.siu.edu/~ucs](http://www.siu.edu/~ucs); Woody Hall B204; Ph: 618-453-2391) for testing via the "Strong Interest Inventory" to identify the academic majors that best fit the student's personality, values, interests, and skills.

## **PASSING THE ARRT BOARDS:**

**\*\*Students have to take and pass the ARRT Board exam by July 1<sup>st</sup> before they begin their fall semester of specialization classes (CT/MRI and Radiation Therapy).\*\***

### **ADA Accommodations:**

Under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act, educators and students have both rights and responsibilities. It should be the mutual goal of the student and the university to maximize the likelihood that students with disabilities succeed. Accommodation sometimes is necessary.

If you think you have a learning disability or know you have a disability but have not been tested, then please contact SIUC Disability Support Services at 453-5738 for an appointment for the evaluation of your learning disability.

Once you have been diagnosed as having a learning disability, we, the faculty of the Radiologic Sciences Program, strongly encourage you to tell us what type of learning disability and what type of accommodation is needed to help you succeed in our Program. If you do not notify us (prior to the end of the first week of the semester) that you have a disability, **and** you do not request accommodation during this course, then you accept full responsibility for your own success or failure in this course.

**Ultimately, YOU are responsible for your own success or failure.**

### **ATTENDANCE:**

**Please note:**

**\*\* Please turn off all cell phones, MP3 players, PDAs, iPods, headsets, pagers, beepers, all other personal communication devices, and remove all types of earphones/earbuds!!** If it's necessary to be in constant communication with your children, their schools, business associates, spouse, friends, etc., then, now is not the right time for you to be pursuing our Radiologic Sciences Program.

A record of daily attendance is kept. **Attendance/participation in Lab is mandatory for this course.** Habitual tardiness to Lab will result in points being deducted from each final grade. **Each late arrival or absence will result in 0.5 point, daily, deducted from the student's final grade.**

Any student that misses a Lab is responsible for the material covered. He or she should contact the appropriate Lab instructor to make-up the missed Lab.

During the semester, if a student chooses to drop out of the Radiologic Sciences program, or this course, that student must meet with the course instructor to discuss the student's reasons for leaving the course.

### **Building Emergency Response Protocols**

#### ***University's Emergency Procedure Clause:***

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that

you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on Campus, available on the BERT website, [www.bert.siu.edu](http://www.bert.siu.edu), the Department of Public Safety's website, [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in the Emergency Response Guidelines pamphlet, "Know how to respond to each type of emergency".

Instructors will provide guidance and direction to students in the classroom and X-ray Labs in the event of an emergency affecting your location. ***It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.*** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

#### ***Disabled Students:***

Instructors and students in the class will work together as a team to assist disabled students out of the building safely. Disabled students will stay with the instructor and communicate with the instructor what is the safest way to assist them.

#### ***Earthquake:***

In the event of an earthquake you are advised to take cover quickly under heavy furniture or near an interior wall, a corner, to avoid falling debris. Outside the building are trees and power lines and debris from the building itself that you will need to stay away from. In the building, large open areas like auditoriums are the most dangerous. Do not try to escape on a stairway or elevator. Do not hide under a stairway. We do not recommend that you stand in a doorway because the door could shut from the vibrations and crush your fingers trapping you there.

#### ***Fire:***

##### **During the fall semester we have a Fire Drill.**

Pick up your belongings and your instructor will lead you to either the North or South parking lot depending on what part of the building your class is in. You must stay with your instructor so he/she can take roll calls. As soon as the building is all clear, you will be allowed to return to class.

**These drills are to train instructors and the Building Emergency Response Team to get everyone to a safe place during an emergency.**

#### ***Tornado:***

##### **During the spring semester we have a Storm Drill.**

Pick up your belongings and your instructor will lead you to a safe area of the basement. No one will be allowed to stay upstairs. Stay away from windows. The drill should not last more than 10 minutes. You must stay with your instructor so he/she can take roll calls. **Students need to be quiet in the basement** as the BERT members are listening to emergency instructions on handheld radios and cannot hear well in the basement.

#### ***Bomb Threat:***

If someone calls in a bomb threat, class is suspended and students will be asked to pick up their belongings, evacuate the building and leave the premises. Do not leave anything that is yours behind. We will not allow anyone back into the building until the police and bomb squad give us an all clear. **DO NOT USE YOUR CELL PHONES.** Some bombs are triggered by a cell phone signal.

#### ***Shooter in the Building:***

When it is safe to leave, move to a safe area far from the building where the shooter is located. If you have any information about the shooter, please contact the police after you return home. If you

cannot leave, go into a room, lock the door, turn out the lights, and if possible, cover the glass on the door. Silence all cell phones after one person in the room you are in calls the police and informs them of your location and how many are in the room. Be quiet and wait for the police to arrive. The police are looking for one or more shooters, and they have no way of knowing if the shooter is in the room with you. For that reason, when the police enter the room, no one should have anything in his/her hands and each person MUST raise his/her hands above his/her head.

***Women's Self-Defense Class:***

For interested female students and female faculty and staff, the SIU Public Safety Department sets up free self-defense classes. The SIU Public Safety Department will be teaching this class. They teach a free class in the fall and spring at the Rec Center. In the fall you would register at the Rec Center for the Women's Self-Defense Class or RAD (Rape Aggression Defense) as it is sometimes called. If you have questions about registering for the class, you can send an email to [lavong@siu.edu](mailto:lavong@siu.edu). LaVon is the contact in the Dean's Office in the Communications building that will assist you to try to find the class you need.

## RAD 112 LABORATORY SCHEDULE

August 22 – December 16, 2016

**BOLD font indicates Lab activity**

| DATE                 | LECTURE  | ASSIGNMENT  |
|----------------------|--|---|
| Aug. 22, 2016        | <u>1st Week</u><br>Introduce course & syllabus;<br>Sign-Up for 1 X-ray Lab Orientation | Meet in ASA room C0011B—the larger X-ray Lab—for this Orientation, at the specified time.<br><br><i>The official X-ray Labs begin the 2<sup>nd</sup> week of the semester: the week of August 29, 2016.</i> |
| Aug. 24              | Continue X-ray Lab Orientation   |   |
| Aug. 26              | Finish X-ray Lab Orientation if needed   |   |
| Aug. 29              | <u>2nd Week</u><br><b>Position Hand &amp; Wrist</b>                                    |   |
| Aug. 31              | <b>Hand &amp; Wrist positioning continued.</b>   |   |
| <i>Sept. 2, 2016</i> | <b>**Test Hand &amp; Wrist</b>   |   |
| <i>Sept. 5</i>       | <u>3<sup>rd</sup> Week</u><br><b>LABOR DAY – NO SCHOOL</b>                             |   |
| Sept. 6 (Tuesday)    | Labor Day Make-Up Labs in Afternoon for:<br><b>Position Forearm &amp; Elbow</b>        |   |
| Sept. 7 (Wednesday)  | <b>Position Forearm &amp; Elbow</b>  |   |
| Sept. 9              | <b>**Test Forearm &amp; Elbow</b>  |   |
| Sept. 12             | <u>4<sup>th</sup> Week</u><br><b>Position Humerus &amp; Shoulder</b>                   |   |
| Sept. 14             | <b>Position Humerus &amp; Shoulder</b>   |   |
| <b>Sept. 16</b>      | <b>**Test Humerus &amp; Shoulder</b>   |   |
| Sept. 19             | <u>5<sup>th</sup> Week</u><br><b>Position Scapula &amp; Clavicle</b>                   |   |
| Sept. 21             | <b>Position Scapula &amp; Clavicle</b>   |   |

| DATE                       | LECTURE  | ASSIGNMENT |
|----------------------------|--|------------|
| Sept. 23                   | <b>**Test Scapula &amp; Clavicle</b>   |            |
| Sept. 26                   | <u>6<sup>th</sup> Week</u><br><b>Position Ribs</b>   |            |
| Sept. 28                   | <b>Position Ribs</b>   |            |
| Sept. 30                   | <b>**Test Ribs</b>   |            |
| <i>Oct. 3, 2016</i>        | <u>7<sup>th</sup> Week</u><br><b>Position Chest &amp; Abdomen</b>  |            |
| Oct. 5                     | <b>Position Chest &amp; Abdomen</b>  |            |
| Oct. 7                     | <b>**Test Chest &amp; Abdomen</b>  |            |
| <b>Oct. 10-11</b>          | <b>FALL BREAK –NO SCHOOL</b>   |            |
| <b>Oct. 12 (Wednesday)</b> | <u>8<sup>th</sup> Week</u><br><b>Start Mid-Term Lab Practical Exams</b><br><b>See the appropriate Lab schedule for your assigned</b><br><b>Mid-Term Lab Practical Exam time.</b> |            |
| <b>Oct.14 (Friday)</b>     | <b>Continue Mid-Term Lab Practical Exams</b>   |            |
| <b>Oct. 17 (Monday)</b>    | <u>9<sup>th</sup> Week</u><br><b>Finish Mid-Term Lab Practical Exams</b>   |            |
| Oct. 19 (Wednesday)        | <b>Position Foot &amp; Ankle</b>   |            |
| <b>Oct. 20 (Thursday)</b>  | Make-Up Labs in Afternoon for:<br><b>Position Foot &amp; Ankle</b>   |            |
| Oct. 21                    | <b>**Test Fook &amp; Ankle</b>   |            |
| Oct. 24                    | <u>10<sup>th</sup> Week</u><br><b>Position Lower Leg &amp; Knee</b>  |            |
| Oct. 26                    | <b>Position Lower Leg &amp; Knee</b>   |            |
| <b>Oct. 28</b>             | <b>**Test Lower Leg &amp; Knee</b>   |            |
| Oct. 31                    | <u>11<sup>th</sup> Week</u><br><b>Position Femur &amp; Hip</b>   |            |
| <i>Nov. 2, 2016</i>        | <b>Position Femur &amp; Hip</b>  |            |
| Nov. 4                     | <b>**Test Femur &amp; Hip</b>  |            |
| Nov. 7                     | <u>12<sup>th</sup> Week</u><br><b>Position Pelvis &amp; S-I Joints</b>   |            |
| Nov. 9                     | <b>Position Pelvis &amp; S-I Joints</b>  |            |

| DATE                       | LECTURE   | ASSIGNMENT |
|----------------------------|---|------------|
| <b>Nov. 11</b>             | <b>Veterans Day – NO SCHOOL</b>   |            |
| Nov. 14                    | <u>13<sup>th</sup> Week</u><br><b>Position Sacrum &amp; Coccyx</b>  |            |
| Nov.16                     | <b>Position Sacrum &amp; Coccyx</b>   |            |
| Nov. 18                    | <b>**Test Sacrum, Coccyx, Pelvis, SI Joints.</b>  |            |
| Nov. 21                    | <u>14<sup>th</sup> Week</u><br><b>Begin Imaging Lumbar Spine</b>  |            |
| <b>Nov. 23 - 25</b>        | <b><u>NO SCHOOL - THANKSGIVING BREAK</u></b>  |            |
| Nov. 28                    | <u>15<sup>th</sup> Week</u><br><b>Position Lumbar Spine</b>   |            |
| Nov. 30                    | <b>Position Lumbar Spine</b>  |            |
| <b>Dec. 2, 2016</b>        | <b>**Test Lumbar Spine</b>  |            |
| Dec. 5                     | <u>16<sup>th</sup> Week</u><br><b>Position Thoracic &amp; Cervical Spines</b>   |            |
| Dec. 7                     | <b>Position Thoracic &amp; Cervical Spines</b>  |            |
| Dec. 9                     | <b>**Test Thoracic &amp; Cervical Spines</b>  |            |
| <b>Dec. 12 (Monday)</b>    | <u>17<sup>th</sup> Week</u> : <b>10am in Lab 11B and Lab 11C:<br/>Begin Lab Practical exam covering the past 8 weeks.<br/>See the appropriate Lab schedule for your assigned<br/>Final Lab Practical Exam time.</b> |            |
| <b>Dec. 14 (Wednesday)</b> | <b>Finish Final Lab Practical exams</b>   |            |

## Faculty Expectations of RAD 112L students

### 1. **Retain knowledge and principles of:**

- Basic algebra for exposure factor calculations;
- Anatomy & physiology—RAD 112 takes anatomy to a deeper level;
- Medical terminology & directional terminology;
- X-ray physics (RAD 202)—some principles have direct application to Lab work; and,
- X-ray techniques (RAD 102)—some principles have direct application to Lab work.

### 2. **Retain current passwords AND access to your siu.edu E-mail account.**

- ✚ SIUC administration & faculty expect you to check your siu.edu E-mail account at least 2x per week, if not daily.
- ✚ Make sure your all your RADS faculty E-mail addresses, including Mr. Broomfield, are identified as ‘safe’ addresses by all your E-mail providers.
- ✚ Make sure all RADS faculty have your siu.edu E-mail address so you can receive course materials or information that is electronically distributed.

### 3. **Pay attention to and keep up with ALL deadlines & due dates for paperwork.**

### 4. **Keep your RAD 122b Ehrlich & Coakes Patient Care book. You’ll need it for RAD 112 Lab Orientation AND for both of your clinical semesters: RAD 222 & RAD 332.**

### 5. **Punctuality vs. Tardiness**

- ✓ All RADS students are expected to report to class, to Lab and to the clinical facility at the designated time.
- ✓ Punctuality is a simple way to prove that you are dependable and reliable, two desirable character qualities that are priceless to your Clinical faculty.
- ✓ Tardiness is not responsible professional behavior. Habitual tardiness demonstrates:
  - Lack of respect. Lateness cheats classmates of their time.
  - It implies that you are selfish with your time.
  - Lack of organization.
- ✓ Each late arrival will be considered the equivalent of one absence for grade determination.  
**A record of daily attendance will be kept. Attendance to Labs is mandatory for this course.**
- ✓ Each late arrival or absence will result in 0.5 point, daily, deducted from the student’s final grade.

6. Each radiography student has signed up for either a 60-minute Lab on Monday or Wednesday, and for a 30-minute Lab on Friday for testing. During the 60 minute Labs, each student will practice on his/her Lab partner and Position each other for the designated body part(s). The 30-minute Friday Labs will be for testing on the designated body parts.

**The responsibilities of the RADS student are:**

**a. Modest attire/modest clothing of all students is required in all RAD Labs.**

**(1) Modest attire demonstrates**

- Respect for yourself and for others;
- A competent professional appearance that backs up your body language & oral communication skills.

**(2) Trendy and/or provocative clothing are not acceptable because they create an unprofessional appearance and a hostile learning environment.**

**(a) Examples of unsuitable attire include, but are not limited to,:**

- Low cut neck lines,
- Bare midriffs
- High cut hem lines,
- Low slung jeans/shorts,
- Waistbands below the hips,
- Exposed abdomen,
- Exposed gluteal fold,
- Exposed underwear, etc.

**b. When in doubt, look at yourself in a full-length mirror, and ask:**

- “Would this outfit/set of garments inspire confidence in my professionalism if I were a hospital patient, physician, or another healthcare worker?”
- “Would this outfit/set of garments be so distracting that it would interfere with my verbal patient instructions?”

**c. Arrive on time and be prepared for the day's Lab activities.**

(1) Review/read notes and Merrill’s PRIOR to each Lab session.

(2) Bring positioning notes and Merrill’s textbook to each Lab session.

(3) Late arrivals, lack of preparation, and/or lack of notes/Merrill’s will not be tolerated. Such behavior will result in the student being expelled from Lab for that day and that student will receive a 0 (zero) as the grade for the day's Lab work.

**7. TECHNICAL COMPETENCIES**

During the course of the clinical semester, the student shall be able to:

- a. Use oral and written medical communication;
- b. Demonstrate knowledge of human structure, function and pathology;
- c. Anticipate and provide basic patient care and comfort;
- d. Apply the principles of body mechanics;
- e. Perform basic mathematical functions;
- f. Operate radiographic imaging equipment and accessory devices;

- g. Position the patient and imaging system to perform radiographic exams and procedures;
- h. Modify standard procedures to accommodate for patient condition and other variables;
- i. Correctly process radiographs to obtain diagnostic quality radiographs;
- j. Determine exposure factors to obtain diagnostic quality radiographs with minimum radiation exposure;
- k. Adapt exposure factors for various patient conditions, equipment, accessories, and contrast media to maintain appropriate radiographic quality;
- l. Practice radiation protection for the patient, self and others;
- m. Recognize emergency patient conditions and initiate first-aid and basic life-support procedures;
- n. Evaluate radiographic Positions for appropriate positioning and Position quality; and,
- o. Evaluate the performance of radiographic systems, know the safe limits of equipment operation, and report malfunctions to the proper authority.