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INTRODUCTION TO THE CLINICAL HANDBOOK

Welcome to WAU’s Department of Medical Imaging, Radiologic Technology Program. You are now a member of an elite group of students. The educational program available to you will prepare you to graduate with excellent professional and technical qualifications.

The Department of Medical Imaging will provide you with a structured program designed to achieve your goals, the resources to enhance your skills, and a guarantee that every opportunity will be made available for you to become successful.

YOUR RESPONSIBILITY WILL BE:

1. to participate in meeting the class, laboratory, and clinical objectives
2. to develop the skills and proficiency to be successful
3. to meet the demands and obligations of a professional workplace.

The four functions of this handbook are as follows:

1. Present the purposes and objectives of the clinical experience.
2. Define the structure, policies, procedures and regulations which will guide your conduct and education in laboratory or department settings.
3. Provide the forms which will be used to evaluate your expertise when performing patient exams.
4. Serve as a reference for information about the Radiologic Technology program.

Because this handbook contains examples of the forms for evaluating your clinical performance, it will be essential for you to have this manual with you during clinical rotations.

WAU’s Radiologic Technology Program Director reserves the right, with due notice, to change, modify, revoke, suspend, or terminate, in whole or part at anytime, policies, procedures, regulations or general information stated herein.
I. PURPOSES

A. The purpose of clinical assignments in WAU’s Radiologic Technology program is to allow the student to apply theoretical principles of radiographic procedures, imaging, radiation protection, imaging equipment, patient care, and departmental procedures to practical experience.

B. During this 23-month training period students will play an active role as learners, and will NOT replace departmental personnel in any area.

C. Students will be active participants during their assigned clinical rotations, and during their free time are encouraged to become better acquainted with the equipment and exams/procedures performed in their assigned clinical setting. Clinical time is not to be used as study time for classes.

II. ORIENTATION

The purpose of the orientation period is to familiarize the student with departmental procedures, personnel, and locations of supplies.

A. Patient Care

Student should be able to:

1. Practice proper hand-washing technique.
2. Practice proper body mechanics when handling equipment and/or patients.
3. Practice standard precautions, and isolation techniques.
4. Respond to patients physical and emotional needs.

B. Equipment manipulation, image acquisition and procedures

Student should be able to:

1. Identify the types and sizes of image receptors used for routine procedures.
2. Properly identify radiographs.
3. Properly identify patients.
4. Operate locks on radiographic tube.
5. Set up various source-to-image distances as instructed.
6. Shield patient whenever possible.
7. Make exposure.
8. Manipulate all radiographic control panels in the general, and fluoroscopic areas of the general radiology department.

C. General Hospital

Student should be able to:

1. Locate and perform basic operation of portable radiographic equipment.
2. Locate central supply, lab, patient floors, nuclear medicine, ultrasound, MRI, CT, cath lab, and special procedures.

III. LEVEL OF CLINICAL ASSESSMENT

A. Clinical Participation

1. The student begins his/her clinical participation by first assisting a radiologic technologist in the execution of duties.

2. This participation moves from observation to assisting the radiologic technologist in radiographic examinations. The rate of student progress is dependent upon the ability of the student to comprehend, and perform the various tasks assigned to them.

3. As the student gains experience in various procedures, he/she gradually moves into a competency level.

B. Competency Level

1. The student first obtains didactic knowledge in anatomy, radiographic positioning, and patient care.

2. These cognitive, psychomotor, and clinical skills are then demonstrated in the non-energized lab. During these lab sessions with WAU Radiologic Technology program faculty or assigned clinical instructor, the student is able to see radiographic procedures demonstrated in a small group setting. Student’s positioning skills, problem solving and critical thinking ability is evaluated during this time.

3. The student then practices these skills in the radiology department under the direct supervision of a qualified technologist. During this time, the **student must perform required number of practice procedures of each required procedure competency with little or no assistance from the technologist.** The qualified technologist must observe these examinations, and document their successful completion. Documentation is the technologist’s signature on the Procedure Signature Form. This must be completed prior to the student performing a simulated lab competency.

4. The student must next perform a simulated lab competency for each required competency procedure. This simulated lab competency is performed after the acquisition of required number of practice procedures, evaluated by WAU Radiologic Technology program faculty or CI and **must have a minimum passing grade of 92%.**

5. When all the above requirements have been successfully completed, the student is then allowed to attempt a clinical competency on a given procedure. This must be performed in the presence of a qualified technologist, who will evaluate the student on their technical and clinical
skills. **It is the student’s responsibility to ensure the technologist is aware of the student’s intention of demonstrating clinical competency prior to the procedure being performed.**

6. If the student does not attain the minimum passing grade at any point in this process, they must return to the previous step before attempting the next level of competency.

C. Clinical Education Objectives

The student should be able to:

1. Perform and/or assist the radiologic technologist with the radiographic procedures assigned to that room. Level of clinical supervision – WAU Radiologic Technology program faculty, clinical instructor and qualified technologist.
   a) Evaluate and complete each requisition, including chart work and tracking of patient and procedure
   b) Demonstrate proper facilities readiness
   c) Demonstrate proper patient-technologist relationship
   d) Demonstrate correct positioning skills
   e) Manipulate equipment effectively
   f) Show evidence of radiation protection
   g) Evaluate the radiographic image for:
      1. anatomical parts
      2. proper IR-tube-part alignment
      3. radiographic technical factors
      4. image identification

2 All procedure images shall show evidence of radiation protection.

IV. **GENERAL OBJECTIVES**

A. Patient Handling Tasks

Throughout the student’s endeavors within the clinical environment, they are expected to develop the patient handling skills necessary to be a caring and compassionate professional radiographer.

An acceptable level of competence has been attained when the student is able to perform the following patient handling tasks:

1. Drape or gown patient for examination
2. Transfer patients safely to and from stretchers and wheelchairs
3. Use Standard Precautions so as to protect the patient as well as themselves from pathogens
4. Check patient’s chart for contraindications in reference to procedure, e.g. allergies, pregnancy
5. Ascertain if the patient is prepared for the procedure
6. Use immobilization devices to immobilize patients during exposure
7. Explain the x-ray procedure to the patient
8. Reassure apprehensive parents of pediatric patients
9. Reassure and calm pediatric patients
10. Review printed patient instructions on procedures with patient or patient’s family
11. Review patient’s clinical history
12. Check for clarification of conflicting doctor’s orders
13. Receive patients on arrival, i.e. introduce self, obtain patient’s name
14. Give precise and adequate direction to patient concerning procedure
15. Use proper procedure for identifying patients
16. Observe care to maintain the IV flow integrity
17. Change dressings if appropriate
18. Make notations of significant patient physical or emotional response to procedure
19. Label specimens
20. Provide radiation protection for personnel and patient
21. Inspect for electrical and mechanical hazards and observe rules of safety
22. Respect the rights and expectations of the patients
23. Comply with legal requirements pertaining to safe handling of patients

At no time are students permitted to hold a patient or Image Receptor during x-ray procedures.

V. CLINICAL INSTRUCTION

Application of theory learned in the classroom and correlation with clinical procedures performed in radiology will be accompanied by the following three methods of clinical instruction.

A. Non-energized Demonstration Lab

This aspect of the clinical program is designed to accomplish the objectives set forth in the academic program, and is arranged to complement the courses of Radiologic Positioning and Procedures, Anatomy & Physiology, and Patient Care.

1. Students will meet with program faculty or CI at the site of their assigned clinical rotation.

2. Method of instruction: Instructor demonstration of procedures. Evaluation of non-patient simulated procedure occurs during these lab sessions. Students will also be evaluated on their problem solving and critical thinking abilities using situational role playing.

3. Rationale: To serve as the laboratory practice portion of the Radiologic Positioning course. The demonstration lab will allow the student to demonstrate competency in the application of technique manipulation, patient care, radiation protection, problem solving, critical thinking, and interpersonal skills.
B. Radiographic Evaluation

This aspect of the clinical program provides classroom time for the student to report on procedures performed by them as well as observe a fellow student’s work. Class discussion and review of radiographic principles is encouraged. Program faculty moderates and directs learning activities.

1. Students will report monthly for Departmentals in which radiographic evaluations will occur.

2. Method of instruction: Two to three students will present exams which they have either performed or observed. The radiologist’s report of the findings is also included. After presentation, program faculty invites class discussion and comments on the exam presented, and radiologist findings.

3. Rationale: The student has an opportunity to play an active role in their academic and clinical training as well as gaining interpersonal communication skills while presenting to classmates.

C. Image Critique with Radiologist

This optional aspect of the clinical program gives students the opportunity to be in attendance while a radiologist dictates reports for the ordering physician (also referred to as doctor’s hours). Doctor’s hours are optional and must be requested in writing by the senior student. Doctor’s hours are not part of student’s clinical grade.

1. Senior students will individually join a radiologist when time is available.

2. Method of Instruction: At appropriate times in their clinical rotations students will spend time observing the radiologists dictate reports.

3. Rationale: Physicians may involve students with questions and information regarding the procedure they are dictating. Students will have the opportunity to gain knowledge, which will improve their understanding of the technical and procedural aspects of radiography.

4. Only one consecutive hour at a time may be obtained with any given radiologist for a total of three hours per session.

VI. OVERALL CLINICAL GRADE

The student’s clinical grade is made up of the following parts:

1. Clinical Performance Evaluation grade (25%)
2. Attendance (25%)
3. Clinical Competency grade (25%)
4. Faculty Clinical Assessment of Student (25%)
The student’s overall clinical grade will be formulated by averaging all of the above. A passing clinical grade is, at minimum, a 75%. Students must maintain a passing clinical grade at all times. Any student who does not achieve a 75% or better for their clinical grade will receive a failing clinical score and will be dismissed from the program.

A. Clinical Performance Evaluation Grade

Clinical Performance Evaluation grade is an average of your evaluation sheets. Students will be evaluated every two weeks or at the end of a rotation by the qualified technologist that they worked with most. At the end of each session, all of the Clinical Performance Evaluation forms will be graded and the average will be the student’s Clinical Performance Evaluation grade which is 25% of each student’s overall clinical grade.

B. Attendance

Attendance in the clinical setting is vital for the student to develop the skills necessary to become technically proficient in radiologic procedures. Therefore, 25% of the student’s clinical grade is determined by the student’s attendance. If a student exceeds the allowable number of absences in a session, they will receive a score of zero for their attendance grade. This policy does not affect scheduled university breaks, holidays, or approved leave of absence.

C. Clinical Competency Grade

The Clinical Competency grade will be formulated using the Procedure Competency Evaluation form. Each grade from the student’s completed competencies will be averaged together at the end of the session to arrive at the student’s Clinical Competency grade.

1. Procedure Competency Completion Regulations

- Any qualified (ARRT registered) technologist may evaluate the student for their Procedure Competency Evaluation.
- Students are NOT allowed to repeat projections while performing a Procedure Competency Evaluation.

The following steps MUST be achieved before the student may attempt an exam for a clinical competency:

1. Didactic: The material must have been covered in procedures courses.

2. Lab: Student must have participated in a non-energized lab with program faculty or CI on that particular exam.

3. Signatures: Student must acquire the required number of signatures on the procedure under direct supervision of a registered technologist. Signatures are given only for procedures
performed by the student with little or no assistance and under the direct supervision of a qualified technologist.

4. Lab Evaluation: Student must demonstrate knowledge of the exam to either program faculty or clinical instructors. It is the student's responsibility to keep all Lab Competency Evaluations. Students will be asked to present their Lab Evaluation for each procedure to faculty at the time of competency review.

5. Competency: May be attempted after the preceding steps have been successfully completed. Demonstration of competency may be achieved with any registered technologist. Completed Procedure Competency Evaluation form shall be submitted to program faculty within 1 week of completion.

When the student is prepared to attempt a procedure competency, a Procedure Competency Evaluation form should be given to the registered technologist along with the requisition of the patient. The technologist shall be informed of the student's intention of performing competency prior to the start of the procedure. A procedure already in progress may not be used for a competency. The student shall use his/her markers when performing each projection. If any of the following occur, the student will automatically fail the competency.

1. Failure to use lead markers or use them correctly
2. Repeat film necessary due to technique or positioning error
3. Performing the wrong exam, or an improper exam on a patient
   a. failure to check armband
   b. verify doctor's orders in chart
   c. performing procedure without prescription from doctor
4. Failure to follow radiation protection procedures
5. Inability to perform procedure without assistance

A grade of 92% or higher must be achieved in order to pass each Procedure Competency Evaluation. If a passing grade is not achieved the student must repeat the procedure. The repeat must be performed within 3 months of the failed competency. After 3 months, the signatures and Lab Competency Evaluation must be performed again. The highest grade that can be obtained on a repeated competency is 92%.

Once the student has successfully completed a procedure competency, they may perform that exam on patients with indirect supervision.
2. **Number of Procedure Competencies Required Each Session**
   The following is a schedule of the minimum number of procedure competencies the student must complete each session. In addition, the cumulative minimum must be met at the termination of each session.

<table>
<thead>
<tr>
<th>Session</th>
<th>Minimum # of Comps</th>
<th>Cumulative Comp Total</th>
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<tbody>
<tr>
<td>1</td>
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<td>43</td>
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<td>8</td>
<td>9</td>
<td>52</td>
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*If the minimum number of competencies is not completed in a session, the student is given 0% for all incomplete competencies.

*No student will graduate unless all of the required procedure competencies are completed.

**D. Faculty Clinical Assessment of Student**

At the end of each session the Clinical Coordinator will evaluate the student as to his or her clinical and effective skills. This evaluation will be reviewed by the Program Director and student and will account for 25% of the student’s clinical grade.

The following pages contain examples of the evaluation forms used for:
All necessary clinical forms are located at WAU in the Radiologic Technology classroom.

1. Examination/Repeat Log
2. Clinical Performance Evaluation
   a. Clinical performance (Session 1 & 2, Junior and Senior)
   b. CT rotation
   c. Special Procedures
   d. Equipment Performance Evaluation
3. Faculty Assessment of Student Clinical Performance
4. Signature Record
5. Lab Competency Evaluation
6. Procedure Competency Evaluation
7. Procedure Competency Requirement Log (for student’s record)
## Washington Adventist University
Radiologic Technology Program
Examination/Repeat Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Procedure</th>
<th>Technologist</th>
<th>Observed (O)</th>
<th>Assisted (A)</th>
<th>Performed (P)</th>
</tr>
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<tbody>
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## Repeat Log

<table>
<thead>
<tr>
<th>DATE</th>
<th>Procedure</th>
<th>Reason for Repeat</th>
<th>Direct Supervisor</th>
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</table>
### Clinical Performance Evaluation (Junior Eval, Session 1 & 2)

**Student:** _______________________________  

**Session:** __________________

**Clinical Assignment:** ______________________  

**Rotation Dates:** ______________

**Technologist/Supervisor:** __________________  

**Rotation #: __________________

---

1. **Personal Appearance**

   Did Student meet dress code?  
   - Yes  
   - No

2. **Clinical Participation**

   Dependable and responsible (punctual/conscientious)?  
   - Yes  
   - No

   Shows interest in exam/procedure being performed?  
   - Yes  
   - No

   Asked questions, eager to learn about exam/procedure?  
   - Yes  
   - No

   Eagerly performs examinations learned?  
   - Yes  
   - No

   Accurately documents exams and repeat exams?  
   - Yes  
   - No

3. **Patient Care**

   Practices proper handwashing technique/universal precautions?  
   - Yes  
   - No

   Practices proper body mechanics in patient transfer?  
   - Yes  
   - No

   Uses effective communication skills with patients?  
   - Yes  
   - No

4. **IR Handling/Processing**

   Can identify type and size of IR holders/cassettes?  
   - Yes  
   - No

   Developing knowledge of PACS and CR system?  
   - Yes  
   - No

5. **Equipment Manipulation**

   Demonstrates ability to move tube/table top?  
   - Yes  
   - No

   Demonstrates proper tube warm-up?  
   - Yes  
   - No

   Manipulate control panel for examinations as instructed?  
   - Yes  
   - No
**Clinical Performance Evaluation—(Junior Eval, Session 3 & 4)**

<table>
<thead>
<tr>
<th>Student: ____________________________</th>
<th>Session: ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Assignment: ___________________</td>
<td>Rotation Dates: ___________________</td>
</tr>
<tr>
<td>Technologist/Supervisor: ___________________</td>
<td>Rotation #: ___________________</td>
</tr>
</tbody>
</table>

Please circle one of the following options for each question:

- 4 = above average, 3 = average, 2 = marginal, 1 = unsatisfactory

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td><strong>Student/Patient relationship</strong></td>
<td>Communication, attitude, compassion</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2)</td>
<td><strong>Student/Radiographer relationship</strong></td>
<td>Cooperation, communication, attitude</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3)</td>
<td><strong>Dependability and responsibility</strong></td>
<td>Punctual available, conscientious</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>4)</td>
<td><strong>Personal appearance</strong></td>
<td>Grooming, cleanliness, meets dress code</td>
<td>Yes or No</td>
<td></td>
</tr>
<tr>
<td>5)</td>
<td><strong>Personal characteristics</strong></td>
<td>Self-confidence, maturity, ethical</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>6)</td>
<td><strong>Attitude toward technologist comments</strong></td>
<td>Accepts constructive criticism, direction and suggestion</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>7)</td>
<td><strong>Attitude toward procedure</strong></td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>8)</td>
<td><strong>Initiative</strong></td>
<td>Performs daily duties without being asked</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tries unfamiliar cases</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eagerly performs exams learned</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>9)</td>
<td><strong>Critical thinking</strong></td>
<td>Adapts to situations and exams</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Applies organization in procedures &amp; utilized foresight</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to correct error on images</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>10)</td>
<td><strong>Clinical ability</strong></td>
<td>Confidence of positioning</td>
<td>4</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Confidence in exposure factors</td>
<td>4</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Focuses on fundamentals</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Practices proper radiation protection on self and patient</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Completess procedures in a timely manner</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accurately documents all exams and repeat exams</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>11)</td>
<td><strong>Quality of images</strong></td>
<td>Proper contrast and density (low repeat ratio)</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>12)</td>
<td><strong>Equipment and supplies</strong></td>
<td>Careful/professional use of</td>
<td>4</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Knowledge of</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
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<td></td>
<td>Routine stocking of room</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
Clinical Performance Evaluation—(Senior Eval, Session 5-8)

Student: ___________________________  Session: ___________________________

Clinical Assignment: ___________________________  Rotation Dates: __________________

Technologist/Supervisor: ___________________________  Rotation #: ___________________________

Please circle one of the following options for each question:
4 = above average, 3 = average, 2 = marginal, 1 = unsatisfactory

1) Student/Patient relationship
   Communication, attitude, compassion 4 3 2 1

2) Student/Radiographer relationship
   Cooperation, communication, attitude 4 3 2 1

3) Dependability and responsibility
   Punctual available, conscientious 4 3 2 1

4) Personal appearance
   Grooming, cleanliness, meets dress code Yes or No

5) Personal characteristics
   Self-confidence, maturity, ethical 4 3 2 1

6) Attitude toward technologist comments
   Accepts constructive criticism, direction and suggestion 4 3 2 1

7) Attitude toward procedure
   4 3 2 1

8) Ability and drive to perform routine procedures independently
   4 3 2 1

9) Initiative
   Performs daily duties without being asked 4 3 2 1
   Tries unfamiliar cases 4 3 2 1
   Eagerly performs exams learned 4 3 2 1

10) Critical thinking
    Adapts to situations and exams 4 3 2 1
    Applies organization in procedures & utilized foresight 4 3 2 1
    Ability to correct error on images 4 3 2 1

11) Clinical ability
    Confidence of positioning 4 3 2 1
    Confidence in exposure factors 4 3 2 1
    Focuses on fundamentals 4 3 2 1
    Practices proper radiation protection on self and patient 4 3 2 1
    Completes procedures in a timely manner 4 3 2 1
    Accurately documents all exams and repeat exams 4 3 2 1

12) Quality of images
    Proper contrast and density (low repeat ratio) 4 3 2 1

13) Leadership towards underclassmen
    Sets good example 4 3 2 1
    Mentor and develop 4 3 2 1

14) Equipment and supplies
    Careful/professional use of 4 3 2 1
    Knowledge of 4 3 2 1
    Routine stocking of room 4 3 2 1
### Department of Medical Imaging – Clinical Performance Evaluation

**CT Rotation: # ________ Session _____________**

<table>
<thead>
<tr>
<th>Student ____________________________</th>
<th>Dates ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The student can describe the basic theory of C.T.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>2. The student can explain exams performed, patient preps and contrast media utilized.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>3. The student can explain the scanning procedure from scout to programming of cuts.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>4. The student can demonstrate operation of the console.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>5. The student can demonstrate the manipulation of the table.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>6. The student can demonstrate the performance of a head scan. (with assistance)</td>
<td>Yes  No</td>
</tr>
<tr>
<td>7. The student can demonstrate the performance of an abdominal scan. (with assistance)</td>
<td>Yes  No</td>
</tr>
<tr>
<td>8. The student can demonstrate image retrieval from the computer and transfer to film and/or prepare for dictation.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>9. The student can identify basic anatomy from cross-sectional images.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>10. Student/Patient Relationship</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>attitude, communication, concern, pt safety</td>
<td></td>
</tr>
<tr>
<td>11. Student/Radiographer Relationship</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>cooperation, communication, attitude</td>
<td></td>
</tr>
<tr>
<td>12. Dependability/Responsibility</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>punctuality, conscientious</td>
<td></td>
</tr>
<tr>
<td>13. Personal Characteristics</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>self confidence</td>
<td></td>
</tr>
<tr>
<td>14. Attitude toward technologist comments</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>accepts constructive criticism, direction, and suggestion well</td>
<td></td>
</tr>
<tr>
<td>15. Attitude toward procedure</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>interest in procedure being performed, eager to learn, asks questions, takes initiative</td>
<td></td>
</tr>
</tbody>
</table>
1. The student can identify and describe the operation of the following equipment
   A. Radiographic control panel
   B. Automatic injector and its controls

2. The student can load the automatic injector.

3. The student can position the imaging system and table.

4. The student can list the basic components of a typical angiographic tray.

5. The student can prepare the room (including tray set up) for a given angiographic procedure.

6. The student can select a requested catheter and appropriate guidewire for/during a given procedure.

7. The student can describe the anatomy and positioning of the various angiographic procedure(s) performed.

8. The student can demonstrate image retrieval from the imaging system and transfer it to film and/or prepare for dictation.

9. Student/Patient Interaction
   attitude, communication, concern, pt safety
   (circle one) 4 3 2 1

10. Student/Radiographer Interaction
    cooperation, communication, attitude, accepts direction and suggestion well
    4 3 2 1

11. Dependability/Responsibility
    punctuality, conscientious
    4 3 2 1

12. Personal Characteristics
    Self-confidence, takes initiative, eager to learn
    4 3 2 1
Performance Objective: The student will be able to demonstrate proper use of equipment, selection of correct type/size of film, demonstrate correct part-tube-film relationship, and proper selection of technical factors on the control panel.

S = Satisfactory    U = Unsatisfactory

1. Demonstrate ability to move tube in longitudinal, transverse, and vertical movements.    S / U
2. Demonstrate ability to move table top.    S / U
3. Choose correct size/type of film.    S / U
5. Properly place cassette in table bucky and wall bucky.    S / U
6. Select correct SID for table bucky, wall bucky, and table top.    S / U
7. Demonstrate ability to angle tube, when given degrees/direction of angle.    S / U
8. Demonstrate proper tube warm-up.    S / U
9. Choose between table bucky, wall bucky, or table top on control panel.    S / U
10. Properly select and make changes to AEC.    S / U
11. Properly set control panel for kVp and mAs.    S / U
12. Make adjustment to mAs when given different mA or time factors.    S / U

Comments: _________________________________

______________________________  ______________________________
Student Signature               Date
|   | Follows program dress code and maintains a neat appearance. | Follows and respects all WAU, program and hospital policies. | Consistently uses good judgment in clinical setting. | Accepts challenges and does not avoid difficult situations. | Uses clinical time appropriately. | Shows initiative within assigned rotation. | Demonstrates compassion and respect for all patients. | Respects the rights and maintains confidentiality of patients. | Remains within assigned clinical rotation. | Is punctual (daily attendance, lunch breaks, etc...). | Is attentive to patient, hospital staff and classmate needs. | Acts professionally at all times. | Consistently documents repeat examinations | Is self-motivated and demonstrates desire to learn new skills. | Serves as a positive role model for patients and students. | Making appropriate progress in clinical performance. | Completes all work in a timely manner. | Responds positively to faculty and staff remediation. | Demonstrates effective communication. | Demonstrates leadership abilities. | Demonstrates desire to pursue knowledge outside classroom. |
|---|----------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|
|  1 | 4                                                        | 3                                                        | 2                                                     | 1                                                         | 4                                                        | 3                                                        | 2                                                      | 1                                                          | 4                                                        | 3                                                        | 2                                                          | 1                                                         | 4                                                        | 3                                                        | 2                                                      | 1                                                          | 4                                                        | 3                                                        | 2                                                      | 1                                                          | 4                                                        | 3                                                        | 2                                                      | 1                                                          |
Student Name: _______________________________

Procedure: __________________________________

1. Clinical Affiliate: ______________________
   Date of Procedure: _____________________
   Accession Number: ____________________

   ____________________________
   Technologist Signature

2. Clinical Affiliate: ______________________
   Date of Procedure: _____________________
   Accession Number: ____________________

   ____________________________
   Technologist Signature
Lab Evaluation

Student: ____________________________  Final Grade:  Pass or  Fail

Procedure: ___________________________  Date: ___________________

Clinical Affiliate: _____________________  Faculty Signature: ________________

1. Did the student use his/her lead markers:  YES  NO
2. Facility readiness - equipment / room:  YES  NO
3. Evaluation of request; including patient history:  YES  NO
4. Professionalism; patient rapport:  YES  NO

DID THE STUDENT DEMONSTRATE:

5. Correct patient positioning:  YES  NO
6. Radiation Protection:  YES  NO
7. Appropriate grid selection/film size  YES  NO
8. Appropriate selection of exposure factors:  YES  NO
9. Proper Equipment Management:
   a. correct part-tube-film relationship  YES  NO
   b. correct focal – film distance  YES  NO
10. Critical Thinking:
    a. technical adjustments  YES  NO
    b. positioning adjustments  YES  NO

Comments:
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

CI Signature & Date  Student Signature & Date

*Completed lab evaluation must be submitted to program faculty within 1 week of the date performed. Competency must be performed within 6 months of completion of lab, after 6 months the lab will expire.
Department of Medical Imaging  
Radiologic Technology Program  
Procedure Competency Evaluation

Student: ____________________________  Final Grade: _______________%

Procedure: __________________________  Date of Procedure: ____________

Clinical Affiliate: ______________________ Accession #: __________________

Please check the appropriate box for each question:
3 = Acceptable, 2 = Needs minor improvement, 1 = Needs major improvement, 0 = Unacceptable

### Performance Evaluation

<table>
<thead>
<tr>
<th>Evaluation of request including patient history</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Professionalism, patient rapport, patient communication</td>
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<tr>
<td>Radiation Protection: shielding, collimation</td>
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<tr>
<td>Selected appropriate technical factors</td>
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<tr>
<td>Correct identification marker</td>
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| Equipment Management: beam alignment | 0 | 1 | 2 | 3 |

### Totals

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<td>Critique of image quality</td>
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<td>Correct marker placement and artifact removal</td>
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<tr>
<td>Critical thinking: technical factors or positioning</td>
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### Totals
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<th>Signature 2</th>
<th>Lab Comp</th>
<th>Procedure Comp</th>
<th>Faculty Review</th>
<th>Special Instructions</th>
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<td>Chest &amp; Thorax</td>
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<td>Shoulder</td>
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<td>Must include 1 spine, 1 non-shoulder upper extremity &amp; 1 other</td>
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<td>AP &amp; Lateral</td>
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<tr>
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<td>AP &amp; Lateral</td>
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<td>Skull</td>
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<td>Must obtain more than one projection</td>
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<td>C-Arm: Non-Orthopedic</td>
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<td>Chest Routine</td>
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<td></td>
<td>AP or PA and Lat. 2 years old or less</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Study</td>
<td>X</td>
<td>X</td>
<td>Min. of 1 projection</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Geriatric Patient</td>
<td></td>
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<tr>
<td>Chest Routine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>PA and Lat. 65+ years old</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Extremity</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>65+ years old</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Extremity</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>65+ years old</td>
<td></td>
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</tr>
</tbody>
</table>

* Trauma is considered a serious injury or shock to the body. Modifications may include variations in positioning, minimal movement of the body part, etc. X, not required for procedure competency.
VII. NON-ENERGIZED LABORATORY

A. General Rules and Regulations

All students participating in laboratory instruction must abide by the following rules and regulations.

1. All accessory equipment will be properly stored at the end of each class.

2. Students must utilize all locks when moving the x-ray tube, table, and/or bucky.

3. Safety for all students, faculty and staff must be maintained at all times.

Once the student successfully completes the non-energized lab class, they will then be able to perform the procedure under DIRECT SUPERVISION of a qualified technologist in assigned clinical rotation.

VIII. JUNIOR CLINICAL EVALUATIONS

At the end of the first year, all students will be evaluated on their clinical abilities. This evaluation process will consist of:

1. Student self-evaluation (see section IX)
2. Evaluation from both program director and clinical coordinator

IX. STUDENT SELF-EVALUATION

The student will evaluate themselves as to their strengths and weaknesses in the clinical, didactic, and affective areas. The student will complete a total of three self-evaluations during the program. The first is completed at the beginning of the first year. The second is completed at the end of the first year. The third is completed at the end of the second year. These evaluations are intended to assist the student in determining their own strengths and weaknesses, and to help program faculty in tracking the student’s progress in overcoming their weaknesses, and use their strengths to the best of their ability.

The following pages contain examples of student self-evaluations.
INITIAL SELF-EVALUATION

Student Name: ______________________  Date ____________

What personal characteristics do you feel are necessary to be an effective and professional radiographer?

Which of the above characteristics do you feel you possess now?

Which characteristics do you feel you need to work on during the next two years?
Washington Adventist University
Department of Medical Imaging
Radiologic Technology Program

STUDENT SELF-EVALUATION

Name: ___________________________________________ Date: __________

Please evaluate your performance in the field of radiologic technology based on your perspective of yourself. This evaluation will be used by WAU faculty for the purpose of helping you in your weaker areas. In no way will your comments be calculated into a numerical grade or be used in a negative way on any evaluation. It is used ONLY to improve the quality of your education.

STRENGTHS:

WEAKNESSES:

At this point in your training, indicate how you perceive yourself based on the following criteria (check one):

_____ I feel that I am able to perform above acceptable standards in most situations

_____ I feel that I am able to perform acceptable standards in most situations

_____ I do not feel comfortable performing acceptable standards in most situations

Student Signature: ____________________________________________
Washington Adventist University  
Department of Medical Imaging  
Radiologic Technology Program  

STUDENT FINAL SELF-EVALUATION  

Student Name: ___________________________  
Date: ______________

As a graduate of Washington Adventist University’s Radiologic Technology Program, you are entering into a field in which the expectations for professionalism and technical ability are extremely high. It is therefore beneficial for you and our program to assess your strengths and weaknesses in the field of medical imaging. We would like an honest evaluation of yourself both technically and professionally.

STRENGTHS:

WEAKNESSES:

At this point in your training, indicate how you perceive yourself based on the following criteria (check one):

_____ I feel I am able to perform above acceptable technical and professional standards in most situations.

_____ I feel that I am able to perform at acceptable technical and professional standards in most situations.

_____ I do not feel comfortable performing at acceptable technical and professional standards in most situations.

Student’s signature: ________________________________
X. FINAL COMPETENCY EVALUATION

The final step in evaluating the clinical competency of a student is conducted by the Program Director. A student is eligible for the Final Competency Evaluation after successfully completing all of the required procedure competencies. Scheduling of final competencies will be done by the program director. At this time, the student conducts the procedures (outlined below) with complete control over the patient’s care and safety, procedure/exam, utilizing proper technical factors, manipulation of equipment and supplies, and completion of the tracking of the films and requisition.

The Program Director may be requested to assist with spot films or other supportive activities, but will primarily be an observer. The student will demonstrate a minimum of 92% efficiency with each separate exam.

The Program Director will choose one exam from each category listed below for the student to complete. A total of 5 final competencies will be performed. If the student does not receive the minimum of 92% on any of the exams, they will be required to perform that procedure competency again before retaking the final competency.

One procedure from each category must be performed.

1. **Chest:** PA and Lateral, Portable, Decubitus, or Pediatric
2. **Abdomen:** KUB, Abd-2 view, or Abdomen complete
3. **Contrast Study:** UGI, Esophagram, ACE/BE, or IVP
4. **Extremity:** hand, wrist, forearm, humerus, shoulder, foot, ankle, lower leg, knee, femur, or hip
5. **Spine/Skull:** C-spine, T-spine, L-spine, skull, sinuses, facial bones, or nasal bones

XI. EXIT INTERVIEW

During the student’s senior year, they should be developing a portfolio to present to the program faculty at the end of their senior year. The portfolio must include one exam from each of the categories listed above for final competency. Upon completion of all final competencies, the student will present their portfolio at a time scheduled by the program director.
Students should be able to:

1. Demonstrate knowledge of anatomy
2. Demonstrate knowledge of radiographic positioning
3. Demonstrate knowledge of technical factors
4. Discuss indications and contraindications for exam
5. Present patient history
6. Report radiologist’s findings
7. Use correct terminology
8. Demonstrate critical thinking on technique or positioning adjustments

XII. CLINICAL ROTATION OBJECTIVES

Upon completion of clinical rotation in the following areas, the student should be able to demonstrate knowledge, skills, and understanding necessary to:

A. Surgery Objectives
   1. Follow proper dress code including scrubs, cap, foot covering, and mask
   2. Maintain sterile field
   3. Familiarity with the orientation of the surgical suite
   4. Familiarity with correct film used and developing for OR procedures
   5. Hook-up, start-up, and orient the C-arm
   6. Manipulate C-arm to perform AP and Lateral projections
   7. Print or expose film from C-arm
   8. Perform procedures using cystography equipment
   9. RIS system

B. Portable Objectives
   1. Patient Care
      a. Safely transport and transfer patients
      b. Check patient for correct identification
      c. Correctly care for patients with infectious diseases
      d. Provide safe storage for patient’s personal possessions which may be removed during the exam
      e. Communicate with patient in a concerned and professional manner
      f. Explain and instruct patient regarding procedures to be performed
      g. Provide for patient’s modesty and comfort using sheets, pads, sponges, etc.
      h. Practice good medical asepsis to prevent the spread of disease by using correct handwashing procedures
after each patient and routinely clean equipment between patients.

2. Accurately provide a detailed description of the mobile radiographic equipment to include:
   a. focal spot sizes
   b. heat capacity or tube rating
   c. unit output capacity and type (mA and kVp)
   d. current phase (single, multi phase)
   e. 110v power source, conventional, battery operated or capacitor discharge
   f. type of rectification
   g. special features or accessories

3. Perform and evaluate a portable radiographic examination in terms of:
   a. Interpretation of radiographic request
   b. Positioning accuracy
   c. Identification of anatomy
   d. Collimation
   e. Technical factors
   f. Radiographic quality

4. Select proper technical factors for routine situations and make appropriate adjustments for the non-routine examination. The factors to be selected include:
   a. kVp
   b. mA
   c. time
   d. SID
   e. AEC

5. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, patient immobilization devices, filters

C. Emergency Department and Diagnostic Radiographic Rooms Objectives
1. Patient Care and Safety. (as previously outlined)
2. Perform and evaluate radiographic exams to include:
   a. Radiographic image quality
   b. Accuracy of interpretation of requisition
   c. Correct positioning of anatomical parts
   d. Correct use of lead markers and identification
   e. Correct beam limitation
   f. Correct selection of technical factors
3. Select the proper technical factors for routine situations and make appropriate adjustments for non-routine examinations. The factors to be selected include:
   a. kVp
b. mA
c. time
d. SID
e. AEC

4. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters

5. Describe the type of x-ray tube and equipment in use by listing:
   a. Manufacturer
   b. Focal spot size
   c. Heat capacity or tube rating chart
   d. Generator size and type (mA and kVp)
   e. Current phase (single, multi)
   f. Type of rectification
   g. Upright or table bucky

6. Explain emergency room protocol pertaining to radiology

D. Fluoroscopy Objectives

1. Patient Care and Safety (as previously outlined)
2. Perform fluoroscopic contrast studies and evaluate in terms of:
   a. Radiographic and diagnostic quality
   b. Accuracy of interpretation of request
   c. Correct positioning of anatomical parts
3. Correct use of lead markers and identification
4. Correct beam limitation
5. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
   a. kVp
   b. mA
   c. time
   d. SID
   e. AEC
6. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters
7. Describe the type of x-ray tube and equipment in use by listing:
   a. Manufacturer
   b. Focal spot size
   c. Heat capacity or tube rating chart
   d. Generator size and type (mA and kVp)
   e. Current phase (single, multi)
   f. Type of rectification
   g. Special features of various radiographic/fluoroscopic units (i.e., video tape, spot film devices, digital imaging, etc.)
8. Properly use the various imaging recording devices
9. Prepare contrast agents for various prescribed studies (i.e., barium sulfate, iodinated compounds)
10. Explain various examination preparation procedures, and the importance of a well-prepared patient for specific contrast studies.

E. Evening Rotation Objectives
1. Patient Care and Safety (as previously outlined)
2. Perform and evaluate radiographic exams to include:
   i. Radiographic image quality
   ii. Accuracy of interpretation of requisition
   iii. Correct positioning of anatomical parts
   iv. Correct use of lead markers and identification
   v. Correct beam limitation
   vi. Correct selection of technical factors
b. Experience the type of exams, patient flow, and paper work during the afternoon change of shift, and evening hours through an increase in work flow with Emergency Room, outpatients and more one on one time with the Technologists.
c. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
   i. kVp
   ii. mA
   iii. time
   iv. SID
   v. AEC
d. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filter

F. Heart Cath Lab Objectives
1. Patient Care and Safety (as previously outlined)
2. Heart Cath Lab procedures
   a. Distinguish between a right and left heart catheterization
   b. Understand coronary angioplasty indications and outcomes
   c. Placement of electrodes and hook up of EKG monitors
   d. Recognize the left and right coronary arteries on fluoro and cine
3. Heart Catheterization equipment and accessories
a. Load and unload the pressure injector for left ventricular grams
b. Assemble and flush pressure transducers for hemodynamic monitors
c. Understand loading and developing of 35mm cine film
d. Safe and correct usage of IV infusion pumps
4. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screen, collimation, immobilization devices and three cardinal principles of x-ray – time, distance, shielding

G. CT Objectives
1. Patient Care and Safety (as previously outlined)
2. Describe the capability of the software/equipment used in terms of:
   a. Programs available
   b. Applications of programs to procedures performed
3. Equipment and accessories located in each of the following areas:
   a. Scan room
   b. Control room
   c. Computer room
   d. Immobilization devices
   e. Accessory parts needed to obtain special positions
4. Basis of CT
   a. X-ray production
   b. Data acquisition
   c. Data processing
   d. Image display
   e. Windows and levels
5. Evaluate patient scanning/studies in terms of:
   a. Patient positioning
   b. Pediatric scanning
   c. Identifying range and landmarks
   d. Scout scans
   e. Axial scans
   f. Dynamic scans
6. Evaluate image quality in terms of:
   a. Patient factors
   b. Positioning factors
   c. System factors
   d. Technique factors
   e. Resolution factors
H. MRI Objectives
1. Patient Care and Safety (as previously outlined)
2. Describe the capability of the software/equipment used in terms of:
   a. Programs available
   b. Applications of programs to procedures performed
3. Equipment and accessories located in each of the following areas:
   a. Scan room
   b. Control room
   c. Computer room
   d. Immobilization devices
   e. Accessory parts needed to obtain special positions
4. Basis of MRI
   a. X-ray production
   b. Data acquisition
   c. Data processing
   d. Image display
   e. Windows and levels
5. Assist in positioning and scanning of patients
6. Evaluate MRI studies in terms of:
   a. Patient factors
   b. Positioning factors
   c. System factors
   d. Technique factors
   e. Resolution factors

I. Mammography Objectives
1. Patient Care and Safety (as previously outlined)
2. Radiographic Equipment and Accessories
3. Perform mammographic studies and evaluate in terms of:
   a. Radiographic and diagnostic quality
   b. Accuracy of interpretation of request
   c. Correct position of anatomic part
   d. Correct use of markers and identification information
   e. Correct beam limitation devices, and filters
4. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
   a. kVp
   b. mA
   c. time
   d. SID
   e. AEC
5. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters

J. Nuclear Medicine Objectives
   1. Patient Care and Safety (as previously outlined)
   2. Explain how doses are drawn up, their activity calculated, and how “HOT” trash must be handled
   3. Accurately label all films with information required for each study, especially L and R orientation
   4. Describe various equipment needed to perform nuclear medicine studies
   5. Explain basics of nuclear medicine
      a. Observe correct radiation safety standard for patient and personnel
      b. Define radionuclide and radiopharmaceutical

K. Radiation Therapy Objectives
   1. Patient Care and Safety (as previously outlined)
   2. Under direct supervision, assist in the operation of the linear accelerator and demonstrate in-out, and up-down movements of table.
   3. Operate gantry clockwise or counter clockwise as indicated
   4. Proper use of block tray and blocks for any posterior treatment
   5. Explain basics of radiation therapy in terms of:
      a. Interpreting patient’s treatment chart
      b. Define rad, rem, fractionation, protocols
   6. Assist in patient set-ups

L. Special Procedures Objectives
   1. Patient Care and Safety (as previously outlined)
   2. Describe the type of x-ray tube and equipment in use by listing the:
      a. Manufacturer
      b. Focal spot size
      c. Heat capacity or tube rating chart
      d. Generator size and type (mA and kVp)
      e. Current phase (single, multi)
      f. Type of rectification
      g. Special features (i.e., power injector, automatic film changer, film magazine)
   3. Assist with preparation of power injector
   4. Under direct supervision, properly prepare sterile trays for procedures
   5. Properly operate automatic film changer, film magazines, and exposure program format
6. Assist with angiography studies in terms of:
   a. Radiographic and diagnostic quality
   b. Accuracy of interpretation of request
   c. Correct position of anatomic part
   d. Correct use of markers and identification information
   e. Correct beam limitation devices, and filters
   f. Selection of technical factors
   g. Properly hang films for radiologist
   h. Properly prepare jackets for each vessel studied

7. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
   a. kVp
   b. mA
   c. time
   d. SID
   e. AEC

8. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters

M. Ultrasound Objectives
1. Patient Care and Safety (as previously outlined)
2. Explain basis of ultrasound in terms of:
   a. Transducer
   b. Sound-wave production
   c. Multi-image camera
3. Describe the following:
   a. Mode
   b. Filter
   c. Auxiliary
   d. Gain
   e. Depth
   f. Image reverse
4. Perform:
   a. Images of transverse planes
   b. Images of sagittal planes
   c. Gallbladder study with minimal supervision
5. Identify areas of interest
I, ______________________________________, have received a copy of the radiologic technology program Student Handbook, Clinical Policy Manual and WAU Student Handbook. I understand all university and radiologic technology program policies and procedures and will abide by them. I understand that failure to abide by said policies and procedures will result in my dismissal from the radiologic technology program. I understand that I will be informed of any changes to policies and procedures before a change will go into effect.

__________________________________________  _______________
Student Signature       Date