<table>
<thead>
<tr>
<th>Page</th>
<th>Policy/Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>Glossary of Terms</td>
</tr>
<tr>
<td>6</td>
<td>Criteria for Professional Development</td>
</tr>
<tr>
<td>7-13</td>
<td>Clinical Education Level I Objectives</td>
</tr>
<tr>
<td>14-15</td>
<td>Clinical Education Level II Objectives</td>
</tr>
<tr>
<td>16</td>
<td>Clinical Expectations</td>
</tr>
<tr>
<td>17</td>
<td>Confidentiality and HIPAA Policy</td>
</tr>
<tr>
<td>18</td>
<td>Clinical Hours and Locations</td>
</tr>
<tr>
<td>19-21</td>
<td>Specialty Clinical Rotation Expectations</td>
</tr>
<tr>
<td>22</td>
<td>Process to Achieve Clinical Competency</td>
</tr>
<tr>
<td>23</td>
<td>Criteria for Test-Out Evaluation</td>
</tr>
<tr>
<td>24</td>
<td>Criteria for Verification Evaluation</td>
</tr>
<tr>
<td>25-26</td>
<td>Criteria for Competency Evaluation</td>
</tr>
<tr>
<td>27</td>
<td>Criteria for Competency Assessment</td>
</tr>
<tr>
<td>28-29</td>
<td>Maintenance of Student Records</td>
</tr>
<tr>
<td>30</td>
<td>Required Competencies per Semester</td>
</tr>
<tr>
<td>31</td>
<td>Clinical Benchmarks</td>
</tr>
<tr>
<td>32-33</td>
<td>General Competency List</td>
</tr>
<tr>
<td>34</td>
<td>Grading Policy for Competencies (Marker, Shielding and ALARA Policy)</td>
</tr>
<tr>
<td>35-36</td>
<td>Marker Protocol</td>
</tr>
<tr>
<td>37-39</td>
<td>Clinical Grading System</td>
</tr>
<tr>
<td>40</td>
<td>Criteria for Clinical Coordinator Evaluation</td>
</tr>
<tr>
<td>41-42</td>
<td>Clinical Grading Scale for Competency Evaluations and Assessments</td>
</tr>
<tr>
<td>43</td>
<td>Clinical Assignment and Break Outline</td>
</tr>
<tr>
<td>44-45</td>
<td>PTO (Productive Time-Off) Guidelines</td>
</tr>
<tr>
<td>46-47</td>
<td>Attendance and Documentation Log Expectations</td>
</tr>
<tr>
<td>48</td>
<td>Professional Skill Development</td>
</tr>
<tr>
<td>49</td>
<td>Contrast Media Preparation/Administration Policy</td>
</tr>
<tr>
<td>50</td>
<td>Radiation Exposure</td>
</tr>
<tr>
<td>51</td>
<td>Clinical Probation</td>
</tr>
<tr>
<td>52</td>
<td>Indirect/ Direct Supervision Student Agreement Form</td>
</tr>
<tr>
<td>53-69</td>
<td>Critical Thinking and Article Review Assignments</td>
</tr>
<tr>
<td>70</td>
<td>Right to Publish Agreement Form</td>
</tr>
<tr>
<td>71</td>
<td>Early Release Application</td>
</tr>
<tr>
<td>72</td>
<td>Student signature of understanding clinical handbook policies</td>
</tr>
</tbody>
</table>
## Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Education</td>
<td>The portion of the educational program conducted in a healthcare facility that provides the opportunity for students to translate theoretical and practical knowledge into cognitive, psychomotor and affective skills necessary for patient care.</td>
</tr>
<tr>
<td>Competent</td>
<td>The student’s ability to successfully perform a series of designated radiographic positions/projections with indirect supervision and assume those duties and responsibilities according to course and clinical objectives.</td>
</tr>
<tr>
<td>Competency Evaluation/Assessment</td>
<td>The procedure by which a student’s performance is evaluated according to the program’s prescribed standards. Competency evaluation consists of the knowledge, skills and affective behavior required of an entry-level radiographer.</td>
</tr>
<tr>
<td>Didactic Education</td>
<td>The portion of the educational program in which knowledge is presented and evaluated in a classroom setting.</td>
</tr>
<tr>
<td>Direct Supervision</td>
<td>Until a student achieves and documents competency in any given procedure, all clinical assignments shall be carried out under the direct supervision of qualified radiographers. The parameters of direct supervision are:</td>
</tr>
<tr>
<td></td>
<td>1. A qualified radiographer reviews the notification and worklist for the examination in relation to the student’s achievement.</td>
</tr>
<tr>
<td></td>
<td>2. A qualified radiographer evaluates the condition of the patient in relation to the student’s knowledge.</td>
</tr>
<tr>
<td></td>
<td>3. A qualified radiographer is present during the conduct of the examination.</td>
</tr>
<tr>
<td></td>
<td>4. A qualified radiographer reviews and approves the images.</td>
</tr>
<tr>
<td>Indirect Supervision</td>
<td>Supervision provided by a qualified radiographer immediately available to assist students regardless of the level of student achievement.</td>
</tr>
<tr>
<td></td>
<td>“Immediately Available” is interpreted as the [presence of a qualified radiographer adjacent to the room or location where a radiographic procedure is being performed]. This availability applies to all areas where ionizing radiation equipment is in use.</td>
</tr>
<tr>
<td></td>
<td>The parameters of indirect supervision are:</td>
</tr>
</tbody>
</table>
1. A qualified radiographer reviews the notification or worklist for examination in relation to the student’s achievement.

2. A qualified radiographer evaluates the condition of the patient in relation to the student’s knowledge.

3. A qualified radiographer reviews and approves the radiographs.

4. A qualified radiographer is present for any/all repeats.

Laboratory Practice

The portion of the educational program conducted in a simulated or dedicated laboratory that provides students the opportunity for practical application, practice and evaluation under the supervision of an instructor.

Objectives

Specific statements describing behaviors contained within the competency. To provide direction to the overall education process, objectives that complement the competency should be written at various levels (i.e., terminal performance objectives, enabling and en-route objectives). Each objective represents a necessary step towards attaining mastery of an identified competency.

Proficiency Re-Checks

During semester 4, each student will have to demonstrate continued proficiency in radiographic procedures by simulating a variety of radiographic positions. These are called proficiency re-checks.

- Each student will have to correctly position ten (10) views in a thirty-minute time limit
- A faculty member will grade this simulation
- Student must earn a 90% or better for each position according to the standard test-out form.
  - If this is not achieved, the student will have remedial positioning help and another proficiency re-check will be scheduled
  - A failed position results in that competency being revoked from the student’s comp record if acquired.
- If the student does not pass the second simulation attempt, that student will be placed on clinical probation if unable to score a minimum of 90%
- The unsuccessful re-checks (below 90%) will be reflected in the student’s clinical grade (under procedure performance) and not affect the competency average grade for the semester.

Proficiency Re-Comps

During semester 6, each student will have to demonstrate continued proficiency in radiographic procedures by obtaining proficiency re-
comps. Each student will be given a list of **six (6) exams** that must be done during that semester. These exams must be done under the supervision of a technologist. Each student must earn a 93% or better on each re-comp. If this score is not achieved, the student will lose the original competency and will have to re-comp on that exam. If a student is unable to complete a re-comp during semester VI the exam must be simulated before the end of semester. The revoked comps will be reflected in the students clinical grade and not the competency grade. In semester VIII, each student will have **eight (8)** final re-comps to perform. The list is included in the general competency record found in this handbook. A specific date is declared when a student can grade on these exams and successful completion of these exams is required for graduation. The competency grades are applied toward the competency average for the semester.

**Radiographic Procedure**

A series of radiographic exposures which produce diagnostic information.

**Simulation**

Performance of an examination on a subject (not a patient) or phantom with exposure simulation and critique of the image area. May be used for limited volume examinations.
CRITERIA FOR PROFESSIONAL DEVELOPMENT

The Theda Clark School of Radiologic Technology program is comprised of two critical components: didactic education and clinical education. The program uses the established educational outlines as set by the ASRT (American Society of Radiologic Technologists) and the established clinical outlines as set by the ARRT (American Registry of Radiologic Technologists). The clinical portion of the program can further be broken down into technical skills and affective behaviors. The technical component of the program is discussed in detail throughout this handbook. It is the development of acceptable professional habits that is subjective and difficult to assign a timeline to since each student develops at a different rate.

The program uses the ASRT code of ethics as the backbone to clinical behaviors and will discuss those in the course introduction to radiology technology. These can be accessed by using the following link: [http://www.asrt.org/docs/practice-standards/codeofethics.pdf](http://www.asrt.org/docs/practice-standards/codeofethics.pdf)

The following objectives will be used by the clinical faculty to assess the professional development of the student. Students will be carefully observed throughout the program to ensure that adherence to the professional code of conduct and ethics is being practiced. Program faculty will document and advise students as needed.

As a part of clinical experience, the student will:

1. Subscribe to the basic concepts of the practice of Radiologic Technology.
2. Comply with the standards of accuracy and thoroughness.
3. Organize time constructively and productively.
4. Assist in completing appropriate amount of work in time expected.
5. Respond to the needs of patients.
6. Evaluate pressure/crisis situations and respond rationally and objectively.
7. Display the appropriate interpersonal relationships with supervisors, peers, patients, and other employees.
8. Display motivation, interest, and responsibility in completing tasks.
9. Pursue the ability to reason, interpret, and use discretion in carrying out assignments.
10. Conform to attendance/punctuality standards.
11. Adhere to the guidelines regarding personal appearance.
12. Adhere to professional standards of conduct.
FOLLOWING THE COMPLETION OF SEMESTER ONE THE STUDENT WILL BE ABLE TO PERFORM OR COMPLETE THE FOLLOWING:

1. **Hospital and Radiology Department orientation.** The student will be oriented to the Radiology Department. Orientation should include:
   - Description of the type of hospital.
   - Introduction to technologist, radiologists, clerical personnel.
   - Tour of the clinical sites.
   - Reading and becoming knowledgeable about the department policies and procedures.
   - Expectations regarding professional appearance while in clinicals.
   - Introduction to ALARA.

2. **Basic patient handling and patient care procedures.** The student will develop the skills necessary to safely transport and care for patients. The student will demonstrate knowledge concerning professional ethics, courtesy, and empathy in handling patients. Students will have a short orientation to transporting of patients. A student is allowed to transport a patient but must be under the supervision of a registered technologist after the transport orientation. The student will:
   - Transfer patients safely to and from stretchers and wheelchairs.
   - Immobilize patients, when necessary, for patient safety or for obtaining a diagnostic image.
   - Check patient’s chart or EMR for pertinent information concerning radiographic procedures and patient preparation.
   - Observe caution in maintaining integrity of IV unit or other patient care apparatuses.
   - Provide maximum radiation protection for patient and personnel.
   - Protect confidentiality of patient information and follow HIPPA regulations.
   - Use correct isolation and/or antiseptic technique in handling patients with infectious or contagious diseases.
   - Locate and describe contents and purpose of ER tray or drug box for contrast reactions to patients.
   - Follow department protocols regarding fall risk.

3. **Procedure for handling and erasing of digital image receptors and computed radiography cassettes used in digital imaging.** The student will be able to:
   - Properly handle the imaging plates and receptors for both DR and CR.
   - Properly erase the CR imaging plates.
   - Correct procedure for cleaning both DR and CR plates.

4. **General radiography equipment.** The student will locate and describe the design and operational characteristics of the following items of equipment and accessories in the diagnostic rooms.
• Radiographic tube and assembly (including detents).
• Radiographic table and controls (including detents).
• Wall bucky controls and detents.
• Control panel and exposure switch.
• Special accessories and attachments.

5. **Fluoroscopic equipment.** The student will describe the components and operational characteristics of the fluoroscopic attachments.

- Fluoroscopic tube
- Fluoroscopic carriage with controls
- Image intensifying device or Digital Fluoroscopy
- Television monitors

6. **Radiographic technique.** The student will learn and observe the correct technical factors employed for routine patient situations.

- Student will properly learn to set control panel to correct IR or bucky
- Technical factors; kVp, mAs, SID.
- Recognizes when using AEC vs. manual technique
- Small vs. large focal spot
- Recognize and use exposure button correctly
SEMESTER 2 THROUGH 4

Students will have to be able to focus his/her attention on to the patient while learning how to complete very complex imaging procedures. It is important the each student develop their “professionalism” in a manner that is natural, sincere and empathetic. It is equally important that each student be able to blend those skills with the technical requirements of each procedure. Upon completion of the first clinical year, students should have a firm grasp on these skills and be working toward competency on them.

7. Patient interactions. Students need time to develop his/her manner but there are critical components to each and every interaction. Regardless of the imaging procedure being done, the following skills need be present in each interaction:

- Correct patient identification (thru armband or date of birth)
- Introduce yourself and other staff to the patient
- Verify for correctness of procedure ordered-(correct patient, correct part, correct time)
- Confirm pregnancy status of patient
- Interview patient for clinical history and record accurately for physicians
- Explain the x-ray procedure to the patient. Technologists must ask patient for legal consent when applicable. Students must follow department policies for time-out procedures.
- Explain and answer questions from patient about physician’s instructions.
- Demonstrates proper affective listening skills and is aware of poor body language.
- Properly prepare patient for imaging procedure that reduces the chance of radiographic artifacts.
- Assist patient throughout the imaging procedure and ease patient discomfort whenever possible
- Correctly timed and paced breathing instructions.
- Be able to explain why a repeat image might be necessary in the exam
- Thank patient for their cooperation and dismiss patient from the department

This list is not meant to be inclusive, but serves as a guideline for students learning to become an effective communicator. For this level of education, we are relating these skills to the more “ambulatory” or “routine” type of imaging patient. Program measurement tools include assessment of these skills.

8. Fluoroscopic procedures. With direct supervision, the student will be able to prepare the fluoroscopic unit/control panel, provide effective radiation protection measures, and perform the routine fluoroscopic procedures listed:

(a) Esophagram / UGI series / Small Bowel / Barium Enema / Video Swallow

- Patient interactions skills (see above)
- Properly prepare the examination room for all anticipated supplies.
- Setting out proper contrast media and syringes if needed.
- Assist in positioning patient for the different anatomical projections if ordered.
- Work alongside radiologist for the benefit of the patient and apply proper patient care during the exam.
- Utilize appropriate imaging receptor or restrict collimation to the area of interest for each radiographic view.
- Apply proper radiation protection for the patient and personnel.
- Set appropriate technical factors employed for these exams with supervision.
Properly identify and mark the image receptor with supervision.
Complete any required competencies.

(b) Biliary Procedures/ERCP
- Patient interaction skills (see above)
- Properly prepare the examination room for all anticipated supplies.
- Setting out the proper contrast media and syringes
- Assist in positioning patient for the different anatomic projections obtained for these exams.
- Utilize the appropriate imaging plate for each radiographic view.
- Apply proper radiation protection technique to the patient and personnel.
- Close collimation to the area of interest for each view
- Work alongside radiologist for the benefit of the patient and apply proper patient care during the exam.
- Show the bottle of contrast to the physician prior to injection.
- Recognize anaphylactic shock.
- Properly mark the image receptor
- Assist in handling T-Tube catheter and apply aseptic technique.
- Set appropriate technical factors employed for the exam.
- Complete any required competencies.

(c) Urinary Procedures/VCUG/Cystogram/RUG/Nephrostogram/Loopogram/IVU with tomograms
- Patient interaction skills (see above)
- Properly prepare the examination room for all anticipated supplies.
- Setting out the proper contrast media and syringes
- Assist in positioning patient for the different anatomic projections obtained for these exams.
- Utilize the appropriate imaging plate for each radiographic view.
- Apply proper radiation protection technique to the patient and personnel.
- Close collimation to the area of interest for each view
- Work alongside radiologist for the benefit of the patient and apply proper patient care during the exam.
- Show the bottle of contrast to the physician prior to injection.
- Recognize anaphylactic shock.
- Properly mark the image receptor
- Assist in handling assorted catheter(s) and apply aseptic technique.
- Set appropriate technical factors employed for the exam.
- Program mandates that a technologist must perform the injection and remain with student/patient through 15 minutes post injection when doing an IVU exam.
- Complete any required competencies.

9. General Radiologic procedures. With direct or indirect supervision, the student will perform general diagnostic radiographic examinations and evaluate them according to radiographic quality, correct patient and part identification, positioning of anatomic part, appropriate imaging plate size, provide effective radiation protection measures, proper collimation, and marking of image. Students are also expected to be working on the accepted patient interaction skills.
(a) Extremities / Pelvis / Vertebral Column
- Properly prepare the examination room for all anticipated supplies.
- Apply proper patient care using patient interaction skills during the exam.
- Assist in positioning for the different views.
- Able to adapt to portable imaging and technique adjustments.
- Identify the anatomic projection demonstrated in each view.
- Set appropriate technical factors that are employed for the exam.
- Properly mark the image receptor.
- Complete any required competencies.

(b) Chest / Thoracic Cage / Abdomen
- Properly prepare the examination room for all anticipated supplies.
- Apply proper patient care using patient interaction skills during the exam.
- Assist in positioning for the different views.
- Able to adapt to portable imaging and technique adjustments.
- Identify the anatomic projection on the radiograph.
- Identify the appropriate imaging plate for each view.
- Set the appropriate technical factors that are employed for the exam.
- Properly mark the image receptor.
- Understand the value of decubitus views of the chest and abdomen.
- Complete required competencies.

(c) Skull / Facial / Sinus
- Properly prepare the examination room for all anticipated supplies.
- Apply proper patient care using patient interaction skills during the exam.
- Removal of any artifacts in the field of view.
- Position patient for the different views.
- Able to adapt to portable imaging and technique adjustments.
- Select appropriate technical factors employed for the exam.
- Apply appropriate radiation protection to the patient and personnel.
- Become familiar with the Panorex unit
- Complete required competencies.

(d) Skeletal Procedures (skeletal survey, bone age, leg lengths, scoliosis series).
- Properly prepare the examination room for all anticipated supplies.
- Apply proper patient care using patient interaction skills during the exam.
- Position for the different exams.
- Set appropriate technical factors that are employed for the exam.
- Accurately scan and process the scoliosis cassette or set parameters for digital units.
- Apply appropriate radiation protection to the patient and personnel.
- Complete any required competencies.
(e) **Body section radiography (tomography).** The student will:
- Assemble appropriate tomographic accessories in accordance with department instructions.
- Obtain diagnostic quality tomograms.
- Complete any required competencies.

(f) **Mobile Radiography (including surgical suite).** The student will:
- Utilize rules of body mechanics for the safety of both the patient and technologist.
- Assist the radiographer in providing necessary radiation protection while performing bedside or surgical radiographic procedures to include the **strict** collimation of the x-ray beam.
- Apply appropriate radiation protection to the patient and personnel.
- The use of proper distance needed for the exam.
- Under supervision, apply exposure factors specific to general radiography and surgical procedures.
- Follow proper safety techniques and precautions against electrical hazards.
- Follow proper aseptic technique and isolation technique.
- Complete any required competencies.

(g) **Mobile surgical fluoroscopy (C-arm).** The student will:
- Utilize the rules of body mechanics for the safety of both patient and technologist.
- Become familiar with the equipment used in the surgical setting.
  - Image orientation
  - Cine
  - Pulsed fluoro
  - Subtraction
  - Road-mapping
- Applies critical thinking skills to the OR environment
- Apply appropriate radiation protection to the patient and personnel.
- **Strict** collimation of the x-ray beam.
- Understand how radiographic technique differs from a standard room.
- Follow proper safety techniques and precautions against electrical hazards.
- Follow proper aseptic technique and isolation technique.
- Complete any required competencies.

10. **Image Analysis.** The student will:
- Become familiar with properly displaying images on monitors.
- Become familiar with the assessment of image for positioning errors and how to correct patient position for repeat radiographs.
- Become familiar with identifying photographic and geometric deficiencies in radiographs.
- Recognize artifacts if present in the image.
- Evaluate for proper technique by referencing exposure index.
- Recognize basic pathologies on images and its influence on technique.

11. **Contrast Media.** See Contrast Media Administration policy in this handbook.
12. Proficiency Re-checks. During semester 4, each student will have to demonstrate continued proficiency in radiographic procedures by simulating a variety of radiographic positions. These are called proficiency re-checks.

- Each student will have to correctly position ten (10) views in a thirty-minute time limit
- A faculty member will grade this simulation
- Student must earn a 90% or better for each position according to the standard test-out form.
  - If this is not achieved, the student will have remedial positioning help and another proficiency re-check will be scheduled
  - A failed position results in that competency being revoked from the student’s comp record if previously acquired.
- If the student does not score a minimum of 90% on the second simulation attempt, that student will be placed on clinical probation.
- The revoked competencies will be reflected in the student’s clinical grade (under procedure performance) and not affect the competency average grade for the semester.
CLINICAL EDUCATION LEVEL 2 OBJECTIVES  
(Semesters 5-8)

As students complete the first clinical year, he/she should have a firm grasp on basic imaging procedures and a better sense of patient care. During the second clinical year, students continue to master clinical year one objectives and focus attention on those situations that are not “routine”, have “high-pressure”, “increased patient anxiety”, or be of an age that communication includes nervous or fearful parents and guardians. Student will continue to work on patient care skills and competency. Be aware that some radiographic examinations are NOT to be simulated for end of program goals.

13. Fluoroscopic procedures. With direct supervision, the student will be able to prepare the fluoroscopic unit/control panel and perform the routine and non-routine fluoroscopic procedures listed:

(a). Joint Injection / Hysterosalpingograms / Myelography / Lumbar Punctures
- Setting out the proper contrast media and syringes
- Recognize and respond to anaphylactic shock.
- Assist in positioning patient for the different anatomical projections.
- Utilize appropriate imaging plate/collimation field for each radiographic view.
- Maintain sterile field and supplies.
- Must follow department protocol regarding time out and legal consent.
- Apply proper radiation protection technique for the patient and personnel.
- Set appropriate technical factors employed for these exams with supervision.
- Properly identify and mark the image receptor.
- Proper handling of any specimens collected.
- Complete any required competencies.

14. Pediatric (Radiography and Fluoroscopy). The student will:
- Become familiar with the appropriate adjustments to make in positioning and centering for radiographic procedures.
- Learn appropriate methods to immobilize patients.
- Properly adjust exposure factors.
- Become familiar with pathologies afflicting pediatric patients.
- Develop patient care skills in pediatric situations.
- Apply appropriate radiation protection to the patient and personnel.
- Complete required competencies WITHOUT simulation

15. Trauma radiography. The student will:
- Become familiar with positioning modifications of extremities, spines, head, bony thorax, chest.
- Review fractures/pathology.
- Develop patient care skills in traumatic situations.
- Apply radiographic technique selection/adjustments in trauma radiography.
- Manipulate the trauma radiographic equipment efficiently and accurately.
- Apply appropriate radiation protection to the patient and personnel.
- Complete all required competencies WITHOUT simulation.
16. **CT Scan.** The student will:
   - Develop patient care skills needed for CT imaging.
   - Understand basic operation of tube, detectors, and operator console.
   - Understand the generation of scanners.
   - Provide necessary radiation protection while performing scans.
   - Understand basic cross-sectional and 3-D anatomy.
   - Become familiar with different pathologies.
   - Become familiar to scanning parameters.
   - Become familiar with contrast protocols.
   - Become competent with IV insertions.
   - Complete all competency requirements **WITHOUT** simulation.

17. **Proficiency Re-comps.** During semester 6, each student will have to demonstrate continued proficiency in radiographic procedures by obtaining proficiency re-comps. Each student will be given a list of **6 exams** that must be done during that semester. These exams must be done under the supervision of a technologist. Each student must earn a 93% or better on each re-comp. If this score is not achieved, the student will lose the original competency and will have to re-comp on that exam. If a student is unable to complete a re-comp during semester VI the exam must be simulated before the end of semester. The revoked comps will be reflected in the student’s clinical grade and not the competency grade. Penalties will occur if a simulation is not done before the published end of the semester.

18. **Final competencies of semester 7 and 8.** The student will:
   - Have to demonstrate continued mastery of radiographic procedures by acquiring eight (8) additional Re-competencies. The list is recorded on the general comp record and will be explained at the appropriate time.
     - Only 4 re-comps can be performed within semester 7 leaving the remaining 4 to be performed in semester 8.
   - Complete all of the mandatory and elective requirements found on the clinical competency record in order to meet graduation requirements.
     - See the general competency record for the list of exams required.
     - Simulations will be scheduled the week of early release OR when clinical and educational benchmarks are met.
CLINICAL EXPECTATIONS

Daily Expectations:
- Make a point to **learn** as much as you can each day
- **Ask** questions!!! A good question to ask a tech is what do you expect me to do today or for this exam?
- Participate in **every** exam.
- **Sign** in and out each day.
- Arrive to clinicals on time and be prompt when returning from breaks and lunches

Weekly Expectations:
- Fill out room checklist for your scheduled area. Seniors may do the checklists with you. These will start when you are assigned to an area.
- Fill out log sheet- think of it as a journal-the more info the better for you. Every Friday (or your last clinical day of the week). Enter your info in your student record and then place paper copy in Stephanie’s mailbox by her office.
- Become as familiar as you can with the equipment used in your scheduled room.
- Become familiar with the workflow at each campus.
- Become familiar with the computer technology at each campus.
- Turn in all your papers (log sheet and room checklists) each week to program faculty by using locked mailbox at the school.
- Enter any pto time in your student record (if taking).
- Practice positioning when at the hospital when patient flow allows. Keep books out of exam rooms. Flashcards are ok to bring to clinicals because you can tuck them into your pocket.
- Get your comps graded within 14 days of e-mail notification.
- Be ready to test-out each week.
- **Set a clinical goal for the week.** Some examples are: get a patient from the waiting room and change the patient by yourself, ask history, access patient from worklist, etc.

Monthly Expectations:
- Change your film badge each month and return to TC by the 10th. You must make a copy of your badge report, initial your report and turn into faculty **EVERY** month.
- Check your PTO balance regularly and any errors should be rectified with faculty.

End of Semester Expectations:
- Review Semester Assignment outline provided at the beginning of each semester and verify that all requirements are met.
- All assignments are due the last day of the academic semester by 1700 (5:00pm)!! **NO EXCEPTIONS.**
- Case studies and articles can be e-mailed by deadline but all other papers must be delivered to the school by deadline in order to receive full point value in your clinical grade.
CONFIDENTIALITY AND HIPAA

Patients trust healthcare professionals with his/her life. Part of this relationship has to be built on trust which means respecting the patients need for privacy. It is the desire of ThedaCare to establish a culture that supports and holds as a core value the protection of all information and records. It is the firm belief of ThedaCare that the basic and essential requirement of protecting confidentiality is to respect and value the fundamental right of all employees and patients to have their personal and confidential information kept private. This information is shared only when there is clear necessity and need to know, and then only under the provisions of law and this policy.

To help protect this information, students must log on and off the computer after each patient(s) is/are completed. It is the expectation of the program that students protect patient information when logged in. This means the computer should be locked or the information minimized so no visible information is present while with a patient. When using the mobile unit all paperwork should be placed upside down to prevent visitors or other healthcare members from viewing information. Students are able to access the patients’ electronic chart if there is a clear need to know certain information contained within. The program will enforce all other aspects of Thedacare’s established policy (see HR 701).

If faculty finds an unsecured computer terminal and verifies that a student is logged in, an oral warning is given and documentation will be placed in the students’ file. A second violation will result in a written warning and points deducted from semester clinical evaluation. A third offense could result in clinical probation and/or dismissal, depending on the discretion of the program director. All other breaches will be handled according to Thedacare’s policy (HR 701). Serious violations could immediately result in dismissal.
CLINICAL HOURS AND LOCATIONS

Students will be scheduled specific hours during the course of the clinical education portion of the program. Didactic hours can be found in the student handbook. A majority of the hours spent in the clinical setting will be 7:30 AM to 3:30 PM or 8:00 AM to 3:30 PM Monday thru Friday (hours are dependent on the clinical site). Students can expect to be scheduled for no more than 12 weeks of 3:00 PM to 9:00 PM shifts, which will start at the end of semester two. Students can expect to be scheduled for no more than 12 (twelve) Saturday 7:00 AM to 3:00 PM shifts, which will start approximately in the third semester. Per JRCERT no more than 25% of student’s total clinical hours may be spent in evening and weekend clinical rotations.

Students will spend a majority of his/her clinical education at Appleton Medical Center, Theda Clark Medical Center, and Encircle Health. Students will spend no more than six (6) weeks at each of the other approved clinical sites which are: ThedaCare Medical Center-New London, Appleton Cardiology Associates (located at AMC), ThedaCare Orthopedics- Neenah, ThedaCare Medical Center-Shawano, and ThedaCare Medical Center-Waupaca. Students will also spend approximately 2 weeks in the following imaging modalities: mammography (elective), cardiovascular and special procedure laboratories, and MRI. Students will also spend approximately eight (8) weeks in CT scan. All of the aforementioned areas are intended to be observational EXCEPT for CT scan. The American Registry of Radiologic Technologists has mandated that all entry-level technologists have core skills in CT. Please see the General Competency List for the exams needed for graduation. If a student is interested in pursuing a career in ultrasound, radiation therapy, mammography, CVL, or MRI, the program will assist all interested students in completing additional job shadows in those areas.

The program is currently seeking additional clinical sites, so information will be shared as it becomes available.

PROGRAM EXPECTATIONS FOR SPECIALITY CLINICAL ROTATIONS
The following objectives are in place to ensure that each student enrolled in the program is provided the same opportunities for clinical experience. It also explains the expectations of the program so students can be successful.

**Mammography Rotation**

This is considered to be an **elective** rotation for all students which means the student must inform the department if he/she will be joining the mammo department. This communication can take place via email but must be done NO later than 8:00 AM Friday before his/her rotation begins. School faculty (Stephanie) should be copied on email sent as this is considered an assignment. Students will be given the contact information prior to the rotation beginning. If the student chooses to remain in the radiology department, a secondary room assignment is given.

In order to respect patient privacy, each technologist must gain permission from the patient in order to allow student in exam room. Students are not allowed to approach patient until this permission is granted. Student initials should be recorded in RIS as department protocol.

Students will be allowed to watch all procedures that are scheduled as long as patient is in agreement. This includes screening, diagnostic and invasive procedures.

Students must be directly supervised at all times by registered technologist. This is not an “observational only” rotation. If a student wants to position the part, the technologist must be immediately available. Patient consent must be gained before any positioning occurs.

Technologists are required to help student complete a check list of tasks for the mammography department.

**MRI Rotation**

This is considered to be a mandatory rotation for all students. Every student is carefully screened and receives MRI safety information prior to the rotation. The screening forms will be kept in the students’ file. If a student has a clear exception to be within the magnetic field the student will be restricted to the control booth area.

Student initials should be recorded in RIS as department protocol.

Students will be allowed to watch all procedures that are scheduled. If the contrast injector is to be used for the exam, students are only allowed to observe the registered technologist using the equipment.
Students must be directly supervised at all times by registered technologist. This is not an “observational only” rotation. If a student wants to position the part or operate control console, the technologist must be immediately available.

Technologists are required to help student complete a check list of tasks for the MRI department.

**Interventional and Cardiac Specialized Procedures**

- Student initials should be recorded in RIS as department protocol.
- Students will be allowed to watch all procedures that are scheduled. If the contrast injector is to be used for the exam, students are only allowed to observe the registered technologist or physician use the equipment.
- Students must be directly supervised at all times by registered technologist. This is not an “observational only” rotation. If a student wants to position the part or operate the equipment, the technologist must be immediately available.
- Technologists are required to help students complete a check list of tasks for the interventional or cardiac department.
- ALARA and radiation protection measures will be reviewed in the radiation protection course.
CT Scan

This is considered to be a mandatory rotation for all students.

Student initials should be recorded in RIS as per department protocol.

If the contrast injector is to be used for the scan, students are only allowed to observe the registered technologist use the equipment.

Students must be directly supervised at all times by registered technologist. This is not an “observational only” rotation. If a student wants to position the part or operate the equipment, the technologist must be immediately available. Technologist/physician consent must be gained for the scan parameters before the scan occurs. Any reconstructions or re-formats must also be checked by technologist before sending to PACS.

Students are required to complete specific competencies for this modality. As part of the comp requirements, students must attempt the IV insertion as many required exams are contrast enhanced. The IV attempt does NOT need to be successful however for the student to “pass” the comp.

If a patient has an enhanced head, chest, abdomen and/or pelvic scan ordered a student can grade on all exams ordered, but will need to acquire the necessary IV insertions that week in order to “pass” all exams (Each scan equals 1 IV attempt). If a patient comes to the scanner with an existing IV or port, the student can still grade, but still document the required number of IV insertions on other patients that day. The documentation can be placed right on the comp form and should include the patient’s E number for verification.

Only the Program Director is approved for grading out CT scans as he is board certified in that modality. Please contact Director within the 14 day timeframe to schedule the grading of the exams.
Clinical education is a COMPETENCY BASED and progressive course throughout the students (24) months in the program. Clinical assignments are designed to coincide with didactic sessions in radiographic anatomy, radiographic procedures and radiographic evaluation of images. The integration of the didactic portion of program with the clinical component provides the student with the necessary knowledge and experience to qualify for an entry level position as a radiologic technologist. The information below is a brief look at the steps taken to become competent in all radiographic procedures.

1. Learn anatomy and positioning in classroom.
2. Practice the positions on classmates during clinical time.  
   - Lab competency or test-out with clinical instructors on fellow classmate: Successful go to next; unsuccessful go to #2. When students have a re-do on testing out that must completed within a week’s timeframe or the student will earn a “0” on that chapter.
3. Observation and practice in clinical setting with patients under direct supervision of a technologist.
4. When student is confident performing the procedure student will “verify” on that exam while being directly observed by a registered radiologic technologist.
5. Verify completed. Successful go to next; unsuccessful go to #3. If a student is unsuccessful in verifying a second time on the same exam student must go back to step 2 and complete another test-out with a faculty member within 2 weeks of that 2nd verify attempt.
6. Do another exam with Direct Supervision for grade or “comp”. There is a 24 hour waiting period between a verify and comp. This is to ensure that student is able to retain proficiency and review procedures.
7. A comp that is deemed unsuccessful will still need to be graded by a clinical instructor and handed in and there is a 24 hour waiting period before attempting the competency again.
8. After the exam has been completed in the presence of a registered radiologic technologist, faculty must ensure that student has the required knowledge in order to work under indirect supervision. This assessment will occur in the final radiographic competency assessment. This must be done within 14 business days of the date from the technologist signature and report must be available.
9. If exam was completed accurately, student can then perform exam from that point on with indirect supervision. Any time a image needs to be repeated, student must be under direct Supervision (bladder shot for abdominal work always requires direct supervision).
CRITERIA FOR TEST-OUT EVALUATION

During the clinical education portion of the program, students must dedicate time to practice imaging procedures after didactic instruction. School faculty will work with each student to gain mastery of the positions. Before verifying or comping on any radiographic exams, students must demonstrate his/her understanding of radiographic procedures by testing-out out on each chapter supervised by school faculty.

The following form is used to grade the student’s performance. Students must complete the starred tasks accurately or the position will result in an unsuccessful test out which will require the student to have to repeat that position. The student will receive a -0- for that position. All other missed tasks result in at least a 5 point deduction unless it would cause a repeat. Note that any error that would cause a repeat image to be taken on a real patient will result in a “0”. The scores received are applied to the students positioning class grade. Program has the right to enforce other point penalties.

**Patient Care/Communication**
1. Introduction to patient and confirm patient ID*
2. Acceptable patient history
3. Assesses pregnancy status*
4. Can recite accurate position verbage

**Equipment Readiness/Exposure Factors**
5. Properly manipulates equipment
6. Sets technique BEFORE positioning patient
7. Sets correct kV and mAs or AEC techniques

**Positioning/Tube-part-IR Alignment**
9. Selects or states correct IR size
10. can position view based on description*
11. CR centered to IR (with detent)*
12. CR centered to part correctly*
13. Part properly positioned*
14. Proper SID*
15. Proper tube angulation*
16. Markers placed properly*
17. Completed position in reasonable time

**Radiation Protection**
18. Demonstrates knowledge and application of ALARA
19. Proper use of shielding
20. Proper collimation to area of interest*
CRITERIA FOR VERIFICATION EVALUATION

In order to prove competency, a student must have a verification completed under the direct supervision of a registered radiologic technologist after a successful test-out. The following criteria will be utilized by the program to assess the student’s ability to perform the examination without any assistance.

- Student has the right to assess the status of the patient before stating his/her intent to verify on the procedure.

- Student will hand the technologist the PPF with Verify written on it PRIOR to taking history from the patient.

- Once stated, a student cannot revoke his/her intent to verify on the procedure.

- It is the expectation of the program that the student performs the exam and successfully completes the critical starred tasks found on the competency evaluation form (see next section for specific content). If the technologist feels that the student is not meeting the expectations required of verification, the technologist should choose to not pass the verification process. If student is clearly performing procedure incorrectly, then the technologist is justified to step in and perform rest of exam. This also would be an unsuccessful exam. The verification form should still be filled out and submitted to faculty via website.

- If the verification attempt is unsuccessful on the first attempt, student should seek out faculty for remedial positioning help. Student is able to repeat the verification after 24 hrs with no penalty.
  - If the second attempt at verifying on the same exam is unsuccessful, the student must pass another test-out with faculty before being allowed to verify again. This test-out must take place within 2 weeks of the second unsuccessful attempt. Student should spend time practicing the positions required for that exam. When ready the student should make an appointment with program faculty to complete test-out. Faculty member will use the test-out form and grade the student accordingly. If student passes the test-out the student will be able to verify on that exam at his/her earliest opportunity. If student is unsuccessful, his/her performance will be addressed in the clinical evaluation and an improvement plan will be developed with the student. (Some items to consider in the plan for success would be to use the phantom to make and assess images, simulations on classmates).
  - This process will continue until student passes the simulation with faculty OR student passes verification on patient.
  - If technologist feels that the student performed exam but needs to improve his/her performance before attempting to prove competency, and suggests on the verification that the student practice or complete a certain number of patients, program faculty will work with the student to ensure that this occurs whether repeat simulations or patient experiences are documented.

- Student must wait 24 hrs between verifying and comping in order to allow students time to review his/her performance and position requirements and make necessary adjustments.
CRITERIA FOR COMPETENCY EVALUATION

Upon satisfactory completion of didactic course work, laboratory practice and successful completion of a verification attempt, the student is eligible to perform a competency evaluation. The following criteria will be utilized by the program to assess the student’s competency and must be done in the presence of the grading registered radiologic technologist. In all cases, the student has the right to assess the patient before stating that he or she will grade on the exam. Once the student assesses the patient and chooses to grade, the student must inform the technologist of his or her intent to grade on the exam by handing the technologist the PPF form with “COMP” written on it before taking history. If the student feels they are not meeting the requirements once competency has begun, the student cannot change his/her intent to grade. If the technologist feels that the student is not meeting the expectations required of a competency, the technologist should choose to not pass the competency. If student is clearly performing procedure incorrectly, then the technologist is justified to step in and perform rest of exam. This also would be an unsuccessful exam. The competency form will still be filled out in all cases. A passing grade of 80% is required to earn competency. A grading scale is used to calculate the percentage of each competency performed. A student will then have 14 days to complete the process by having a faculty member assess the comp. See Competency Assessment section immediately following.

COMPETENCY PERFORMANCE EVALUATION (“Comp”)

Patient ID/Care:
1. Student confirmed patient ID with armband or DOB?**
2. Student introduced self and tech to patient?
3. Did student acquire acceptable history form patient PRIOR to (1st year) or WHILE (2nd year) positioning patient?
4. Student explain exam in a manner that patient understood procedure?
5. Asked patient about chance of pregnancy for females ages 10-50? ** (NA)
6. Student maintained conversation throughout procedure?
7. Student showed concern for patient comfort throughout procedure?
8. Student protected patients modesty and confidentiality throughout exam?**

Facility Readiness:
9. Was the tube properly detented or centered to IR?**
10. Student adequately prepared room for examination and had all the necessary/anticipated supplies?
11. Did the student set the control panel before bringing patient into room?

Technical Skills/Positioning:
12. Was the anatomical part positioned properly?**
13. Was the CR properly centered to the part?**
14. Was the proper CR angle used?** (N/A)
15. Was the proper SID used?
16. IF a repeat was needed, did student know how to correct the errors based on experience?**
17. Did the student work in a logical order for exams(s) or patient condition?
18. Was the length of time appropriate for patient condition?
19. Did student place markers correctly?**
20. If needed, was the student able to adapt technical skills to patient/procedure?

Confidence:
21. Was the student knowledgeable about the proper routine for the exam ordered?
22. Did the student need to double-check positioning (IR/CR/Patient)?

ALA/Radiation Protection:
23. Did student make effort to restrict the primary beam with strict collimation?
24. Did student shield patient?**
25. Was the technique properly set for the level of experience of student?
26. Did student evaluate each exposure in order to make improvements in following exposures (IR/CR/collimation)?
27. Did student check exposure index to make appropriate changes in technique in order to reduce dose?

Post Procedure:
28. Did the student complete end of exam responsibilities? (checking for priors, viewing images before sending to PACS, clean/stock room)
29. Did the student ask for feedback about the exam?
30. If necessary did the student relate to the radiologist or other physicians?
31. Did the student record the proper history in the study notes?**
32. Was student eager to grade?

Additional Notes for Faculty:

- If doing a comp in surgery, which ever technologist did the comp with you, should go over the comp with you and it is not necessary to have study further graded by program faculty. Students will earn only one score for these exams.
- Exams done on patients 0-17 years old require direct supervision even if comped on the exam.
- Exams done on patients 7 years and older can count as a comp on regular list
- Pediatric exams are considered 6 years old or younger
- Two students can comp on same patient with multiple exams but it cannot be the same body part; one student will ask the history and the other student will record it and do the patient dismissal.
- Report must be available in order to grade out back of competency
- Students must place technologist initials in the performing role in EPIC while his/her initials should be placed in the support/assist role.
CRITERIA FOR COMPETENCY ASSESSMENT

Proving competency is a two-step process, with the first step having the student physically perform the exam directly supervised by a registered radiologic technologist. The second step in the process is to have a faculty member assess the student’s performance based on image quality and his/her ability to answer questions about the procedure, radiographic anatomy, radiographic principles and equipment operation. This should occur within 14 days of exam completion.

The following criteria are used and a percent score is given using a standardized grading scale (see grading scale for competency evaluations and assessments in this handbook). The scores are averaged every semester and recorded as part of the student’s overall clinical grade (see clinical grading system in this handbook).

COMPETENCY ASSESSMENT

Faculty Radiographic Evaluation:
1. Did the student properly identify each position?
2. Did the student properly state the CR for each position?
3. Did the student properly identify the anatomy included for all positions?
4. Did the student identify the best seen’s for each position?
5. Did the student properly assess the positioning seen for each image?
6. Is there evidence of proper collimation for the exam performed?
7. Is there evidence of proper CR centering?
8. Is there evidence of proper part to IR placement?
9. Is there evidence of completely visible marker(s) on each view?*
10. Did the student display images correctly?
11. Is the student able to state the suggested technical factors for the exam?*(must be within 50% of learned technique)

Notes for Faculty:
- There must be a 24 hr waiting period between the competency evaluation and the assessment. This to provide the student with a chance to review his/her images, anatomy, position requirements.
- A scale is used to give a % grade which is then applied to the student’s clinical grade each semester.
- Before starting, each instructor must give the student an opportunity to properly display the images since this skill is graded.
- If a student passes the exam portion of the comp but does not pass the faculty assessment, the student must repeat the entire exam. A score of zero will be recorded for both grades and the student must repeat. A student will earn a passing score of 80% on the second attempt.

MAINTANENCE OF STUDENT RECORDS
The program has transitioned to an almost “paperless” student record system. This system includes intranet and internet access points. On the secure radiology school intranet site, students will have access to their student folder. Inside this folder you will find the student educational record and an electronic copy of all grading forms (verify’s and comp’s). Students are expected to help maintain the accuracy and management of these records along with program staff. Students will be given instruction on the management of all forms during orientation week and then on a one-to-one basis as needed. This intranet site can only be accessed from inside a ThedaCare location in order to ensure that the punch in and out times are accurate.

Students will also have 24 hour access to an internet account in order to view the Outlook email site. With this website and with the correct organization, each student will be able to honor all grading deadlines and be able to use these computer functions correctly. The link is: webmail.thedacare.org

1. First step to organize each student’s records is to add the following folders to his/her email account.
   Left click on student name at left margin of screen and right click to select “add new folder” (will do this a total of three times)
   - Name first folder “Verify”
   - Next “Comps”
   - Next “Comp Assessments”

2. When a student performs an exam for a grade the system will generate an email notification which will show up in your inbox.
   - If it is a verify, review to make sure that information is accurate and whether or not you passed the exam
     - If you pass- left click and drag e-notification into the verify folder- you should then be able to go to your student folder on the main website and find the same copy you just viewed. This copy will stay in your folder the entire program.
     - If it is unsuccessful, leave it in your inbox as a reminder for you to turn into a positive. (Once successful drag into the verify folder).
   - If it is a comp, review to make sure that information is accurate and whether or not you passed the exam
     - If you pass, leave the form in your inbox and know that you now have **14 days** in which to have a faculty member finish your competency. You are **NOT** considered competent until faculty signs off on the exam by reviewing it with you. Until that event takes place you must continue to use direct supervision while performing that exam so waiting the full 14 days is **NOT** suggested. If comfortable you can make a deadline and notification within your outlook calendar to stay on track!
       - Once the exam is graded by faculty then you can move the e-notification into the “comp” folder in your inbox
     - If comp attempt is unsuccessful, leave it in your inbox as a reminder for you to turn into a positive.
       - You are still responsible to grade the exam with a faculty member within **14 days** to discuss performance and any extra reinforcement as needed.
       - Once the exam is graded by faculty then you can move it into the “comp” folder in your inbox.
   - If the e-notification is a comp assessment , review to make sure that information is accurate and whether or not you passed the exam
If you pass, move it into the “comp assessment” folder in your inbox.

3. You might want to create additional folders for your classes as this will be the only email address that we will send class and clinical information to. The only items to remain in your inbox are those that have a deadline attached.
   - For those who feel comfortable you can make an appointment in outlook to remind when an exam or other assignments is/are due
   - Be aware that some of the power-point presentations we send are quite large so you might want to store them long term on flash drive as your outlook account does have a storage limit

4. Once you perform a verify or comp (not comp assessment), it is the students responsibility to go onto the intranet site and record the date of the exam done in the proper area. Faculty will also go into your student folder and double check that date is recorded and enter the percent grade earned when necessary.

5. At the end of the week, students are expected to enter the totals from the week from his/her log sheet.

6. When you ask off for pto and are approved, students are expected to enter the date and hour amount in the proper location. Faculty will double check each entry and the balance should be verified once a month.

7. At certain times, faculty will meet with students one-to-one to go thru all records for accuracy and completion. Any errors will be rectified. If a student “forgets” about a comp and is past the 14 day deadline, the comp is considered “Expired” and will need to be repeated but still assessed by faculty. The student will however, receive full point value when grading occurs.

8. Students can bring any question or error to faculty anytime to seek clarification.

9. Any paper forms will be stored in a secure location within the classroom. A binder is provided. A student can choose to be in charge of this binder, but has to bring each week. If lost, student will have to repeat all events in order for the proper documentation to exist.

10. Please get in the habit of checking ThedaCare email account daily. It is your responsibility to honor deadlines that are communicated by email.
REQUIRED COMPETENCIES PER SEMESTER

**Level I**

Due end of Semester 1: 2
Due end of Semester 2: 10
Due end of Semester 3: 5
Due end of Semester 4: 23
Total: 40 total for Level I

**Level II**

Due end of Semester 5: 15
Due end of Semester 6: 23
Due end of Semester 7: 12
Due end of Semester 8 before graduation: 12
Total: 62 Level II

102 Total Competencies required for graduation

Additional competencies required for graduation:
- Semester Four Proficiency Rechecks (10)
- Semester Six Proficiency Re-Competencies (6)
- Semester Seven and Eight Final Re-Competencies (8)
CLINICAL BENCHMARKS

Students who are able to set reasonable and achievable goals each semester find themselves completing the program with all of the skills of a competent entry-level technologist. The program has established the following benchmarks to help those students set achievable goals and help students be successful in the program. Each semester of clinical education requires that every student complete a certain number of competencies. The required competencies totals are found in the semester break outline form found in this handbook. The following benchmarks must be completed by the end of the appropriate semester. If, due to patient volume or other circumstances, a student is unable to satisfy the benchmarks, that student will have to simulate the exam(s) before the end of the academic semester. The failure to satisfy these benchmarks will be reflected in the student’s clinical evaluation/grade.

**Semester 1**- Student must comp on a 2 view chest and KUB

**Semester 2**- Student must comp on a 2 view abdomen, a mobile chest, and a contrast exam with fluoroscopy (not a video swallow)

**Semester 3**- Student must comp on an upper extremity and lower extremity

**Semester 4**- Student must comp on a surgical case (not PACU), spine exam, and a skull/facial exam

**Semester 5**- Student must comp on ribs, a pediatric case, and a surgical case

**Semester 6**- Students will be assigned a certain number of re-comps to complete this semester. Each student will work towards six specific exams that have already been successfully completed. Please see section for proficiency re-comps found in this handbook.

**Semester 7**- Student must comp on a trauma exam, a special adaptation exam, and a Myelogram

**Semester 8**- Student must comp on an ICN, a CT exam, and a Panorex

* If a student simulates any of the above exams, the simulation does not replace the verification process. All students are still required to verify and comp on the above exams.
<table>
<thead>
<tr>
<th>General Competency List- Mandatory (90 total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA and Lat Chest</td>
</tr>
<tr>
<td>KUB -1V</td>
</tr>
<tr>
<td>Any Digit- 3V</td>
</tr>
<tr>
<td>Elbow-4V</td>
</tr>
<tr>
<td>Orthopedic Shoulder – outlet (Neer) view- 1V</td>
</tr>
<tr>
<td>Lower Leg-2V</td>
</tr>
<tr>
<td>Axial Patella-1V</td>
</tr>
<tr>
<td>Trauma Hip (X-table)-1V</td>
</tr>
<tr>
<td>LSP-Flex and Extend</td>
</tr>
<tr>
<td>Inlet and Outlet Pelvis- 2V</td>
</tr>
<tr>
<td>MRI Screening of Orbits-1V</td>
</tr>
<tr>
<td>UGI</td>
</tr>
<tr>
<td>Bariatric Post-Op w/in 24hours of OR</td>
</tr>
<tr>
<td>MGM (C, T, or L)</td>
</tr>
<tr>
<td>Trauma Pt. 3 exams-</td>
</tr>
<tr>
<td>Mobile ICN-chest and/or abdomen-1 view</td>
</tr>
<tr>
<td>ORIF of Upper Extremity with Image (above pelvis)</td>
</tr>
<tr>
<td>Post-Op Exam in PACU-2V</td>
</tr>
<tr>
<td>Chest Fluoro (port placement or pacemaker/bronch)</td>
</tr>
<tr>
<td>Enhanced Head CT*</td>
</tr>
<tr>
<td>Calcium Score CT- ACA</td>
</tr>
<tr>
<td>Vital Signs-Blood Pressure</td>
</tr>
<tr>
<td>Sterile/Aseptic technique</td>
</tr>
</tbody>
</table>

Revised 6/2015 SLD, JCH
<table>
<thead>
<tr>
<th>General Competency List- Electives- (26 total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest Decub- 1V</td>
</tr>
<tr>
<td>Clavicle- 2V</td>
</tr>
<tr>
<td>Weight Bearing Foot-2V</td>
</tr>
<tr>
<td>Rhese for optic foramen</td>
</tr>
<tr>
<td>IVU with Tomos</td>
</tr>
<tr>
<td>Intra-op Pelvis</td>
</tr>
<tr>
<td>Enhanced Neck CT</td>
</tr>
</tbody>
</table>
GRADING POLICY FOR MARKERS AND ALARA

The following policies are set by the program to ensure that the grading process remains fair and consistent for each student throughout the clinical sites.

MANDATORY MARKER POLICY: It is the policy of the program that every image must be marked with a right or left side indicator as well as other specialty markers that pertain to that exam.

- **Actual right or left side indicator markers must be clearly seen within all images** (student initials are not required but helpful to verify which student performed procedure). Specialty markers include but are not limited to: Upright arrows, time markers (either min or hour), cm, post-void, post-evac, decub, crosstable (either marker or arrow), angle or arrow for axial clavicle, and scout markers need to be included on the necessary images. If these markers are not completely visible within the image, the comp is deemed unsuccessful. See Marker Protocol on proceeding pages for specific details.

- Fluoro time must be annotated on one fluoroscopic image and also recorded in patient medical record in accordance with department protocol.

MANDATORY SHIELDING POLICY: It is the policy of the program that every patient must have some part of his or her body shielded. If a patient is not shielded during any exposure, the comp will be deemed unsuccessful. When doing a fluoroscopic study and overhead images are not necessary the student must shield the patient for the fluoroscopic portion of the exam. If overhead images are required, shielding must still take place for all images.

ALARA POLICY: In order to develop good ALARA habits, the program has established the following practices.

- **Post-processing cropping:** Students must submit entire exposed area for reading by the radiologist. Students should not crop off any exposed area. If a student collimates to the size of the part, a visible collimated border should be sent to PACS (meaning a white border should be seen).

- **15 % Rule:** students are encouraged to try to decrease patient dose by following the 15 % rule. Images should be assessed at the workstation and modifications can be taken when quantum mottle is not an issue.

- **Technical factors:** for every exposure, every student is encouraged to record the exposure information within the study notes. This should include the kVp, mAs and exposure index or “S” value. (Example for AEC: 90 kV AEC, mAs used, REX or S number) (Example for manual technique: 6.4 @ 70, REX or S number).
MARKER PROTOCOL

The following is meant to be a resource for student and faculty regarding program expectations for correctly marking exams. The exams are arranged according to the semester in which the exams are taught. While this list is meant to be inclusive, unforeseen circumstances can arise and will be dealt with as they occur. The program reserves the right to amend the following criteria at any time. Written notice will be given to students when a change occurs. A right or left side marker is required for all exams even though not stated below. Only the accessory markers are listed below.

Semester One (I):
Chest Radiography: For chest decubs, an arrow or decub marker must also be included and be marking the side up. For cart, w/c, & portable exams, image needs to be annotated with AP and upright, semi up, or supine/down and SID used.
Abdominal radiography: An arrow or upright marker must be clearly seen on the erect view or a decub marker or arrow for the left lateral decub view.
Esophagram & UGI Radiography: One fluoro image must have an annotated marker.
Video Swallow Radiography: Video swallows need to be marked on image intensifier. If Radiologist removes marker, then image must be annotated to the patients reference to the I.I.
Small Bowel: A scout marker is required. If positions are done PA, that marker needs to also be included. A minute marker is also required for every exposure after the scout.
Colons: A scout marker is required if taken. PA positions must have PA marker included. Decubs require an arrow or decub marker. (Note for faculty: CR can burn out markers so annotation is acceptable if tech documents on comp form that markers were placed correctly. If no annotation- no comp).
IVU's: A scout marker is required for the KUB and tomo scout. A cut level marker in centimeters is required for all tomo images. A time marker is required for all images until the patient voids. An arrow is required for upright and a PA marker is required for all prone positions. Post-void marker is necessary for that view.

Semester Two (II):
Upper extremities:
General rule: Markers should always be placed on lateral (for AP and oblique views) or anterior (for lateral views) aspect of part and be parallel with the long axis of part (not upside down either). No points off if this is not done, but correct side marker must be included.
When a PA Hand view is done as part of a digit routine an arrow should be used to indicate affected digit. If not used, 2 points will be taken off of comp.
AP Axial clavicle: requires either an arrow or angle marker. Computer annotation does not replace arrow or angle marker.
AC joints: either with weight or the without weight needs to be marked. If the markers are not available, then use arrow to indicate which image has weights and then computer annotate both images as well.
Axillary Shoulder: requires the use of arrow or crosstable marker.
Post-reduction exam: since there is no post-reduction marker available currently, computer annotation is required to pass comp. (Note for faculty: No annotation-no comp).
** Trauma patients: If at any time a crosstable view is done, an arrow or a crosstable marker needs to be included.
Lower Extremities:
General Rule: Markers should always be placed on lateral aspect of part (for AP and oblique views) or anterior (for lateral views) and be parallel with the long axis of part (not upside down either). No points off if this is not done, but correct side marker must be included.
When an AP Foot view is done as part of a toe routine an arrow should be used to indicate affected digit. If not used, 2 points will be taken off of comp.
Weight-bearing feet: requires an arrow or upright marker.
Knee views: Erect knee view requires an arrow or upright marker. Crosstable view requires use of arrow or crosstable marker.
Post-reduction exam: since there is no post-reduction marker available currently, computer annotation is required to pass comp. (Note for faculty: No annotation-no comp).
** Trauma patients: If at any time a crosstable view is done, an arrow or a crosstable marker needs to be included.

Hip/Pelvis Radiography
Trauma lateral for either femur or hip: requires the use of arrow or crosstable marker.

Spine Radiography:
Any cross table lateral spine images includes, swimmers, flexion/extension views: must have arrow or crosstable marker.
Flexion/Extension views of CSP or LSP: require a flexion/extension marker. These should be placed anteriorly for best results of markers being visible. (Note for faculty: if window level/width can be manipulated at workstation to be visible comp is successful).
Swimmer’s view for either CSP or TSP: must have C1 included to pass comp.
Scoliosis: a right or left marker should be seen within each section of the IP for all views taken. An erect arrow or marker must be visible. No arrow or erect marker or side indicators on all IP’s then comp is unsuccessful.

Bony Thorax:
Ribs: use arrow to point to area of concern when possible

Semester III (3)
Skull Radiography: no special accessories markers are required unless a lateral skull/facial bone is done with a horizontal beam- then a crosstable or arrow marker needs to be included.

For Additional fluoroscopy exams:
When no overhead images are required for grading and the patient position is relatively constant (like the following exams: Joint Injections, Arthograms, MGM’s, Spinal Puncture, HSG’s, VCUG’s, Cystogram’s, ERCP’s, fluoro for Ureters for an IVU, Sniff Test, T-tube Cholangiogram, etc) the student must place his or her right or left marker on the image intensifier (frame of reference is the patient position to the II tube not the table for lateral position). If Radiologist removes marker then technologist documents this and student must place a computer annotated marker on the first image. (Note for faculty: no marker no comp)
**CLINICAL GRADING SYSTEM**

Students will receive academic grades along with a clinical grade each semester. Students are required to maintain a minimum clinical grade of “C” (80%) each semester. The following categories will determine the student’s clinical grade.

**Semesters 1, 3, 5, and 7**

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Competency Evaluations</td>
<td>35%</td>
</tr>
<tr>
<td>2. Clinical Instructor Evaluation</td>
<td>25%</td>
</tr>
<tr>
<td>3. Competency Assessments</td>
<td>20%</td>
</tr>
<tr>
<td>4. Clinical Assignments (including badge reports)</td>
<td>10%</td>
</tr>
<tr>
<td>5. Professional Ethics, Attendance and Punctuality</td>
<td>10%</td>
</tr>
</tbody>
</table>

100% Total

**Semesters 2, 4, 6 and 8**

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Competency Evaluations</td>
<td>25%</td>
</tr>
<tr>
<td>2. Clinical Instructor Evaluation</td>
<td>25%</td>
</tr>
<tr>
<td>3. Competency Assessments</td>
<td>15%</td>
</tr>
<tr>
<td>4. Clinical Assignments (including badge reports)</td>
<td>5%</td>
</tr>
<tr>
<td>5. Professional Ethics, Attendance and Punctuality</td>
<td>5%</td>
</tr>
<tr>
<td>6. Clinical Education Written Test</td>
<td>25%</td>
</tr>
</tbody>
</table>

Explanation of Categories and Examples (Semester 1, 3, 5, and 7)

1. Competency Evaluations are weighted 35%. The student is graded each semester on the competencies that are completed. Example: **Twelve (12)** competencies are due by the end of semester II. **One (1)** percentage point is deducted from the final competency grade for each unsuccessful competency evaluation over **one (1)**.

Example: 2nd semester – 12 competencies required

- Student submits 16 competencies with a total average of 95%
- The student failed 2 competencies
- The student’s final grade in the competency category is 94%

\[94\% \times 0.35 \ (35\%) = \textbf{32.9 points for this category}\]

Incomplete (I) grade for the semester results if competency requirements are not fulfilled, with **2 percentage points** deducted from the final competency grade for each competency not completed. The student has **2 weeks** into the next semester to complete requirements or dismissal results. A student will earn a percent based on a standardized scale. A minimum of 80% must be earned in order to prove competency.
2. The Clinical Coordinator and other instructors complete the **Clinical Coordinator Evaluation** form at the end of each semester. The total points received on this evaluation form will depend on the student’s clinical performance during the semester. If a student earns a score of 80% - a total of **20 points will be earned in this category**

\[ 80\% \times 0.25 = 20 \text{ points} \]

3. **Clinical Assignments** are weighted 10%. Each student is required to complete 2 Critical Thinking Skills assignments each semester and one article review (one page minimum). Anything submitted late will be deducted 1 point for each day late. A grading rubric will be used to evaluate each submitted assignment.

Students must also provide a monthly radiation badge total and submit it to the program signed by each student. The badge reports are to be placed in the student’s binder after being recorded. It is important that each student check his or her badge readings every month. If a student fails to turn in the reports for the months of each semester a **point deduction will occur**.

If a student fails to turn in other semester requirements like: documentation logs or timecards, e-learning transcripts - a **point deduction will occur**.

Semesters 2, 4 and 6 will require students to perform additional image analysis learning. Each student is assigned to complete 6 radiographic exams to assess image quality and positioning errors. Specific details will be given to the student as well as grading methods. If not completed - a **point deduction will occur**.

4. **Competency Assessments** are weighted between 15-20% of your clinical grade depending on the semester. These assessments are completed after a student receives his/her competency evaluation form from the grading technologist. School faculty will assess the students’ understanding of the radiographic procedure and assess image quality. A standardized percent scale is used. All scores are averaged for the semester. If a student earns a 95% comp assessment average the student will earn **14.25 points in this category since this is weighted 15%**.

5. **Professional Ethics, Attendance and Punctuality** is weighted 10%. Any student who is documented for unethical behavior as described in the student handbook will have **5 percentage points** deducted from the final clinical grade for each occurrence over and above the allowance from each semester (see school handbook for more information). Any student who is over the number of allowed days missed or late occurrences will have **5 points deducted for each episode**.

6. **For Semesters 2, 4, 6, and 8- students** are required to pass a 50 question written **Clinical Education Test**. This test is comprehensive and will focus on critical thinking situations in Medical Terminology, Anatomy, Positioning, Pt. Care, and Physics and Radiation Principles. A minimum score of 80% is required to pass this test. Any grade below 80% and the student is required to retake the test until he/she passes and results in the student receiving an 80% for Clinical Education in that semester. If a student scores 88% on this test a total of **22 points for this category** (88 X 0.25=22)
The student will receive the final clinical grade after adding up the points earned from the above categories. This grade will be recorded on each student’s transcript. A student can ask for an explanation of this grade at any time. School faculty will also hold a semester conference to discuss the evaluation and provide suggestions to improve clinical performance.
CRITERIA FOR CLINICAL COORDINATOR EVALUATION

In order to meet the clinical objectives set for each semester and foster the necessary traits of a radiologic technologist, each semester will include a semester conference between student and faculty. The conference will be a discussion of the clinical coordinator evaluation.

This comprehensive evaluation is prepared using quantitative data, direct observations and other measuring tools. The first measuring tool that is used is a monthly self-audit that each student completes. There are five questions that ask the student to reflect on his/her performance and identify strengths and areas to improve. The program can adapt the program to help each student reach their full potential. In addition, during semesters 1, 4, and 6 an in-depth self-study is completed. This will also help students and faculty find ways to help reinforce weaker clinical areas and find ways to show off strengths. Clinical Instructors will also fill out a weekly report when students are in those designated areas as a way to help students improve and keep the communication between program and clinical site open. These tools will be discussed in Introduction to Radiologic Technology class. This information will also help the coordinator prepare the semester clinical evaluation.

The coordinator will prepare and finalize this evaluation with all clinical instructors. A face to face meeting with each student takes place within 2-3 weeks of semester end. If needed, further actions will take place in order for each student to realize his/her full potential. For this reason, the program can be individualized in order to provide the proper structure and guidance needed for the student.

A standardized grading scale is used in order to calculate a percentage score; this will go towards the students’ clinical grade each semester.

There will be 10 objectives assessed in the evaluation. Some examples of the traits to discuss are: initiative, attitude, patient care and communication, procedure performance, confidence, accuracy and accountability.

During introduction to radiologic technology course, the actual evaluation will be shared and discussed with students along with the grading policy.

At any time, a student may ask for an explanation of how the evaluation was written or see any documentation that pertains to that student. Clinical observations made by faculty are shared at the conference.

A student is required to sign the evaluation and will be kept in the student’s records binder.
GRADING SCALE FOR COMPETENCY EVALUATIONS AND ASSESSMENTS

A standardized scale is used to score grading attempts done by each student. A passing grade of 80% needed for each scoring attempt.

### Competency Evaluation (Technologist grading exam)

<table>
<thead>
<tr>
<th>Points:</th>
<th>Percent Earned:</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
<td>100</td>
</tr>
<tr>
<td>92</td>
<td>99</td>
</tr>
<tr>
<td>91</td>
<td>98</td>
</tr>
<tr>
<td>90</td>
<td>97</td>
</tr>
<tr>
<td>89</td>
<td>96</td>
</tr>
<tr>
<td>88</td>
<td>95</td>
</tr>
<tr>
<td>87</td>
<td>94</td>
</tr>
<tr>
<td>86</td>
<td>93</td>
</tr>
<tr>
<td>85</td>
<td>92</td>
</tr>
<tr>
<td>84</td>
<td>91</td>
</tr>
<tr>
<td>83</td>
<td>90</td>
</tr>
<tr>
<td>82</td>
<td>89</td>
</tr>
<tr>
<td>81</td>
<td>88</td>
</tr>
<tr>
<td>-all 2’s scored</td>
<td>-80</td>
</tr>
<tr>
<td>79</td>
<td>86</td>
</tr>
<tr>
<td>78</td>
<td>85</td>
</tr>
<tr>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>76</td>
<td>83</td>
</tr>
<tr>
<td>75</td>
<td>82</td>
</tr>
<tr>
<td>74</td>
<td>81</td>
</tr>
<tr>
<td>73</td>
<td>80</td>
</tr>
<tr>
<td>72 or Below</td>
<td>0-unsuccessful</td>
</tr>
</tbody>
</table>

### Competency Assessment (Faculty grading exam)

<table>
<thead>
<tr>
<th>Points:</th>
<th>Percent Earned:</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>32</td>
<td>99</td>
</tr>
<tr>
<td>31</td>
<td>98</td>
</tr>
<tr>
<td>30</td>
<td>97</td>
</tr>
<tr>
<td>29</td>
<td>96</td>
</tr>
<tr>
<td>28</td>
<td>95</td>
</tr>
<tr>
<td>27</td>
<td>94</td>
</tr>
<tr>
<td>26</td>
<td>93</td>
</tr>
<tr>
<td>25</td>
<td>92</td>
</tr>
<tr>
<td>24</td>
<td>91</td>
</tr>
<tr>
<td>23</td>
<td>90</td>
</tr>
<tr>
<td>-all 2’s scored</td>
<td>-22</td>
</tr>
<tr>
<td>21</td>
<td>88</td>
</tr>
<tr>
<td>20</td>
<td>87</td>
</tr>
<tr>
<td>19</td>
<td>86</td>
</tr>
<tr>
<td>18</td>
<td>85</td>
</tr>
<tr>
<td>17</td>
<td>84</td>
</tr>
<tr>
<td>16</td>
<td>83</td>
</tr>
<tr>
<td>15</td>
<td>82</td>
</tr>
<tr>
<td>14</td>
<td>81</td>
</tr>
<tr>
<td>13</td>
<td>80</td>
</tr>
<tr>
<td>12 or Below</td>
<td>0-unsuccessful</td>
</tr>
</tbody>
</table>

Revised 6/2015 SLD, JCH
## Grading scale for Fluoroscopic Competencies

<table>
<thead>
<tr>
<th>Points</th>
<th>Percent earned:</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>100</td>
</tr>
<tr>
<td>43</td>
<td>99</td>
</tr>
<tr>
<td>42</td>
<td>98</td>
</tr>
<tr>
<td>41</td>
<td>97</td>
</tr>
<tr>
<td>40</td>
<td>96</td>
</tr>
<tr>
<td>39</td>
<td>95</td>
</tr>
<tr>
<td>38</td>
<td>94</td>
</tr>
<tr>
<td>37</td>
<td>93</td>
</tr>
<tr>
<td>36</td>
<td>92</td>
</tr>
<tr>
<td>35</td>
<td>91</td>
</tr>
<tr>
<td>34</td>
<td>90</td>
</tr>
<tr>
<td>33</td>
<td>89</td>
</tr>
<tr>
<td>32</td>
<td>88</td>
</tr>
<tr>
<td>31</td>
<td>87</td>
</tr>
<tr>
<td>30</td>
<td>86</td>
</tr>
<tr>
<td>29</td>
<td>85</td>
</tr>
<tr>
<td>28</td>
<td>84</td>
</tr>
<tr>
<td>27</td>
<td>83</td>
</tr>
<tr>
<td>26</td>
<td>82</td>
</tr>
<tr>
<td>25</td>
<td>81</td>
</tr>
<tr>
<td>24</td>
<td>80</td>
</tr>
<tr>
<td>23</td>
<td>0-Unsuccessful</td>
</tr>
</tbody>
</table>

## Grading scale for OR competencies

<table>
<thead>
<tr>
<th>Points</th>
<th>Percent earned:</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>100</td>
</tr>
<tr>
<td>33</td>
<td>99</td>
</tr>
<tr>
<td>32</td>
<td>98</td>
</tr>
<tr>
<td>31</td>
<td>97</td>
</tr>
<tr>
<td>30</td>
<td>96</td>
</tr>
<tr>
<td>29</td>
<td>95</td>
</tr>
<tr>
<td>28</td>
<td>94</td>
</tr>
<tr>
<td>27</td>
<td>93</td>
</tr>
<tr>
<td>26</td>
<td>92</td>
</tr>
<tr>
<td>25</td>
<td>91</td>
</tr>
<tr>
<td>24</td>
<td>90</td>
</tr>
<tr>
<td>23</td>
<td>89</td>
</tr>
<tr>
<td>22</td>
<td>88</td>
</tr>
<tr>
<td>21</td>
<td>87</td>
</tr>
<tr>
<td>20</td>
<td>86</td>
</tr>
<tr>
<td>19</td>
<td>85</td>
</tr>
<tr>
<td>18</td>
<td>84</td>
</tr>
<tr>
<td>17</td>
<td>83</td>
</tr>
<tr>
<td>16</td>
<td>82</td>
</tr>
<tr>
<td>15</td>
<td>81</td>
</tr>
<tr>
<td>14</td>
<td>80</td>
</tr>
<tr>
<td>13</td>
<td>0-Unsuccessful</td>
</tr>
</tbody>
</table>

## Grading scale for CT comps

<table>
<thead>
<tr>
<th>Points</th>
<th>Percent Earned:</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>49</td>
<td>98</td>
</tr>
<tr>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>47</td>
<td>94</td>
</tr>
<tr>
<td>46</td>
<td>92</td>
</tr>
<tr>
<td>45</td>
<td>90</td>
</tr>
<tr>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td>43</td>
<td>86</td>
</tr>
<tr>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>39</td>
<td>0-Unsuccessful</td>
</tr>
</tbody>
</table>
### CLINICAL BREAKS AND ASSIGNMENTS

**NOTE:** These dates are a guideline and specific dates of semesters starting and ending will be given to each class during orientation.

<table>
<thead>
<tr>
<th>Semester 1 (Fall) Level 1 (14 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts Monday after Labor Day and ends third week in December</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> Case studies 2.14, 2.15; and article review, 2 comps are required by the end of this semester</td>
<td></td>
</tr>
<tr>
<td>3 personal days (24 hours)</td>
<td></td>
</tr>
<tr>
<td>Off for Thanksgiving and the Friday immediately following Thanksgiving</td>
<td></td>
</tr>
<tr>
<td>You will be off week of Christmas thru New Year’s</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 2 (Winter) Level 1 (14 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts second week Jan and ends the second full week in April</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> 6 film critiques, case studies 2.9, 2.2; and article review, 10 additional comps are required by the end of this semester</td>
<td></td>
</tr>
<tr>
<td>3 personal days (24 hours)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 3 (Spring) Level 1 (7 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts the fourth full week in April and ends on the first full week in June</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> case studies 2.5, 2.21; and article review, 5 comps are required by the end of this semester</td>
<td></td>
</tr>
<tr>
<td>5 personal days (40 hours)</td>
<td></td>
</tr>
<tr>
<td>Off Memorial Day</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 4 (Summer) Level 1 (12 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts the second week of June and ends the first week of September</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> 6 film critiques, case studies 2.18, 2.19; and article review, 23 comps are required for this semester so you should have a total of 40 for all semesters at this point</td>
<td></td>
</tr>
<tr>
<td>Choose 80 hours off between June—Sept.</td>
<td></td>
</tr>
<tr>
<td>Off July 4th. If it falls on a Saturday, take Friday off, if on a Sunday, take Monday off.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 5 (Fall) Level 2 (14 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts Monday after Labor day and ends the third week in December</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> case studies 2.11, 2.12; and article review, 15 comps are required by the end of this semester</td>
<td></td>
</tr>
<tr>
<td>3 personal days (24 hours)</td>
<td></td>
</tr>
<tr>
<td>Labor Day off</td>
<td></td>
</tr>
<tr>
<td>Off for Thanksgiving and the Friday immediately following Thanksgiving</td>
<td></td>
</tr>
<tr>
<td>You will be off week of Christmas thru New Year’s</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 6 (Winter) Level 2 (14 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts first or second week of Jan and ends the first or second full week in April</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> 6 film critiques, case studies 2.22, 2.23; and article review, 23 comps are required by the end of this semester</td>
<td></td>
</tr>
<tr>
<td>3 personal days (24 hours)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 7 (Spring) Level 2 (7 weeks)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts the third full week in April and ends on the first week in June</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> case studies 2.3, 2.24; and article review, 12 comps are required by the end of this semester</td>
<td></td>
</tr>
<tr>
<td>5 personal days (40 hours)</td>
<td></td>
</tr>
<tr>
<td>Off Memorial Day</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester 8 (Summer) Level 2 (7 weeks for early release, 12 weeks without early release)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Starts second week of June and ends in August. Possible early release in July</td>
<td></td>
</tr>
<tr>
<td><strong>Required material:</strong> case studies 2.25, 2.7; and article review, 12 comps are required for this semester. A total of 100 comps should be obtained for entire program.</td>
<td></td>
</tr>
<tr>
<td>Also must have 8 final re-comps. Perform 1 re-comp in each of the following categories: mobile Thorax or abdomen / Lower extremity / Pelvis with hip / Spine / GI Oral or Rectal contrast exam or IVU / Upper extremity / Head / Surgical Image Intensifier Case</td>
<td></td>
</tr>
<tr>
<td>5 personal days (40 hours)</td>
<td></td>
</tr>
<tr>
<td>July 4th off. If it falls on a Saturday, take Friday off, if on a Sunday, take Monday off.</td>
<td></td>
</tr>
</tbody>
</table>
PRODUCTIVE TIME OFF GUIDELINES

Students are allowed a minimum amount of productive time off (pto) each semester. Please see Clinical Assignment and Break Outline on previous page of this handbook for allotted hours off. All PTO, with the exception of 8 hours that can be carried into the next semester, must be used prior to the start of the next academic semester. Any additional remaining hours will be considered invalid.

PTO NOTIFICATION: A student must give a minimum of twenty-four (24) hour notice to take PTO. This must be done in writing by using the PTO request form located on the school intranet site or by sending an e-mail to the program faculty. Urgent requests should be given to the Program Director. Students may call in sick for a scheduled shift according to the policy found in school handbook which is no later than one (1) hour prior to start of shift. All PTO and sick time come out of the same bank. Students are directly responsible to notify clinical sites of upcoming time off. Please see notification of clinical sites below for more information.

PTO RESTRICTIONS: In the first and eighth semester of the program, there are no restrictions on when a student can request PTO. It is advised however, that each student ensure that semester requirements are met before taking time off. The remaining semesters of the program have restrictions on when or how much time can be requested based on the clinical rotation.

- Specialty rotations are those rotations that are out of the main radiology departments of TC, AMC and Encircle Health OR when a student is in clinicals from 3:00-9:00 pm. When a student is scheduled in a specialty rotation, each student is allowed to submit one PTO request for up to 8 hours during that week.
- A student cannot take PTO for a Saturday shift. This must be switched with another student.
- When a student is scheduled at New London Family Medical Center, the student must be in clinicals a minimum of one full day each rotation.
- It is advised that students limit his/her PTO when assigned to the surgical rotation. Mastery of skills in this high pressure environment comes slowly and missing significant time can slow progress there.
- PTO on class day has to be approved by program director and is discouraged.

SWITCHING OF CLINICAL SHIFTS: Students are allowed to switch shifts with one another but the change must be approved by a faculty member. All switches require the pto/switch hour form to be filled out online. A minimum of twenty-four (24) hour notice is needed for all schedule switches and must be documented on the schedules at the proper clinical site. (Note for faculty: all switches must remain equal and need to be completed within the schedule timeframe).

NOTIFICATION OF CLINICAL SITES: Students are responsible for informing the proper clinical site of time off by indicating time off by using the shared calendar found in outlook. This time off needs to be placed on the calendar a minimum of 24 hrs prior to the time requesting off. This holds true for every clinical site including other modalities. Students will be given one written notice of when this is not done the first time. Failure to do this a second time will result in a penalty of 8 hours being subtracted from the student’s PTO bank.
COMPENSATED TIME: Under certain circumstances if a student chooses to stay late to finish an exam that has started prior to dismissal time, or completes an exam through the lunch hour, that student is entitled to earn back that time to be used as PTO later. Students must explain the reason for the late punch when signing out. The technologist the student was working with must be listed so the time can be authenticated when necessary. Once the time is confirmed it will be added to the students pto bank. The student has until the next semester start date to use this additional time. (Note for faculty: in order to stay late for an exam in the OR- the surgeon must cut the skin prior to dismissal time. For all other exams, the exam must start prior to dismissal time).

NO BREAK: Students are entitled to a twenty (20) minute break during an 8 hour clinical day. When, due to patient volume, a student is not able to take a break and remains at the clinical site for the remainder of the clinical shift, the student is entitled to receive that time back. A technologist must fill out a technologist feedback form in order for student to earn this time. If that student is allowed to leave the clinical site prior to the end of the scheduled shift- no time is earned.

A student is NOT allowed to come in early for a shift or volunteer for extra shifts to earn additional clinical time off.

USING MORE TIME THAN ALLOCATED: Due to unforeseen circumstances a student can use more time off than what is allotted. In this case, a student will lose 5 points from the final clinical grade and will have to make-up the amount of time that the student went over by an agreed upon deadline. A student can however volunteer to work over and above forty hours (student is not to be scheduled more than forty hours each week). Students must have a separate punch in and out from the “normal scheduled time” and enter the term “make-up” in the appropriate area for both punches. Those additional time punches will be kept as documentation until the student fulfills the requirement.

JURY DUTY OR ACTICVE DUTY: Jury duty or active duty from the National Guards is considered to be excused time off and no PTO time needs to be taken but faculty must be informed with as much notice as possible (minimum of 24 hours).
ATTENDANCE AND DOCUMENTATION LOG EXPECTATIONS

Attendance

Students are expected to be punctual! Students are expected to be dressed and ready for clinical rotation by their scheduled shift time. Students are able to punch in and out using the school intranet site. Be aware that there is approximately a minute in time difference from when you submit to form to when it is time-stamped. Faculty will use the time stamp as your check in and check out time, not necessarily the time you fill in.

Using the electronic form the date and time of your punch in and out must be provided every time. If you participate in clinicals through the lunch hour or break time, you might be entitled to compensation if the correct criteria are met. There is a line reserved on the form for those situations. Please provide a short explanation of events that prevented you from the scheduled break or lunch and include the technologist that you were working with. If a student does not receive a break, that 20 minutes can be added unto the lunch break or can be allowed to punch out 20 minutes early as long as it is at the end of the schedule shift. If student is dismissed early NO compensation time will be given to the student.

When a student chooses to come in on his/her own time, punching in and out is a expectation. Students should type in “practice time” or “trauma room practice” so a notation can be made.

Failure to not follow this policy will result in a point deduction(s) according to the policy found in the student handbook.

Documentation Log Sheets

Students are expected to document his/her activity in the clinical setting. This form is available at each clinical site. Students should fill out a documentation log for each week of clinical rotations. The form will ask for the following information: student name, rotation, performing, assisting or observing, date, technologist initials and a comments section. There are also areas to record your grading activity. Students are able to record any information he/she deems important. Technologists are also encouraged to write comments on this sheet. If a technologist gives you constructive criticism feel free to record yourself. Think of this as a clinical journal-the more information you record the more you will take away from your clinical education. Once a month, you will be asked to reflect back on your performance and do some self-evaluation and goal setting for the next month.

In order for an exam to be considered as a “perform the student must: talk to patient, explain exam, record history, position patient, and set the control panel, and set the collimation. If a student fails to do one of the key tasks from above, the student should check the assists box. If the student is observing the exam consider it to be hands off. A technologist is able to help student decide which supervision is most accurate for any situation/exam.

The documentation log sheets will be reviewed by faculty and the information will be used to assess each student’s performance in the clinical setting. The performing vs. assisting ratio will be used to gauge initiative in later semesters while the observing to assisting ratio will be monitored in the early semesters. Be aware that the program has the right to set a specific level of performance for any given semester for each student.
Students are expected to enter this information in his/her student record and then turn into faculty. This should be done on the last clinical day of the week.
PROFESSIONAL SKILLS DEVELOPMENT
Development of Professional Skills

Development of professional skills is a key component of the clinical portion of the program. Students are expected to learn and develop skills necessary for taking optimal radiographic images while giving quality patient care. This is a difficult process and twenty-four months is needed for students to adequately learn these skills.

Skill development and assessment of the necessary skills is on-going. At the end of exams, students should ask the technologists about his/her performance. The technologists working beside you day in and day out have a good understanding of your strengths and weaknesses. It is vital that you get them to participate in your education. They are able to help you transition from the “book” world to the “working” world.

Students are also assessed by the program faculty at the end of the semester with the Clinical Coordinator evaluation. Direct observations, quantitative data, and technologist feedback are all used in the development of this evaluation. A student conference is then held with each student. Program faculty will give discuss strengths and weaknesses seen and give suggestions for improvement. Every attempt is made to hold these conferences in a timely fashion so strict adherence to semester deadlines in enforced. Below is just a small sampling of affective behaviors that will be evaluated as students move through the program:

- Positive body language
- Maintain professionalism at all times with patients, faculty, and other healthcare members
- Engagement in program and demonstrates enthusiasm for profession
- Makes efforts to maintain modesty of patient
- Demonstration of strong work ethic and participation
- Accepts constructive criticism and makes efforts to apply to suggestions
- Blending of communication and technical skills
- Smooth and polished patient care style
- Strong leadership abilities
- Assertive yet not aggressive
- Able to use communication skills to inform patients about the procedure and any risks
- Able to use communication to respond to patient needs and help put them at ease
- Keeps conversation flowing from beginning to end of exam
- Relates hx to Radiologist
- Shows confidence when dealing with physicians
- Able to multitask
- Recognizes the value of “real” patient experiences and saves “practicing” for down time in clinicals
- Own, accept, and move past mistakes
- Handles stress of program in an appropriate manner

Students will be given an opportunity to see the evaluations during the program orientation. At any time, a student can ask for an explanation of any evaluation tool used by the program.

Students must ensure that his/her signature and technologist signature and school faculty (when appropriate) is included on all forms handed in.
CONTRAST MEDIA PREPARATION / ADMINISTRATION POLICY

The following guidelines will ensure that students are acting within the scope of practice set by the ARRT and department policy to ensure patient safety.

- Students can identify, when appropriate, that there are no contraindications for performing procedures which use contrast media. Allergies need to be documented by technical staff **NOT** students in RIS (following department protocol). Technologist needs to be logged into HIS for these types of procedures.
- Students are **NOT** allowed to draw up or inject contrast according to program policy. Venipuncture is allowed once competency is proven, saline injection as flush by a student is allowed by program but IV must be capped.
- Student is able to explain procedure and go over risks vs. benefits with the patient. Informed consent for radiographic procedures must be witnessed and signed by a registered radiologic technologist.
- Students can mix contrast for both oral and/or rectal administration under direct supervision. Any injectable form of contrast media must be drawn up by a registered radiologic technologist. A student is able to pull the appropriate contrast media for an exam from the supply area. A technologist will verify that the correct contrast is being used for a given procedure.
- If a sterile tray is being used the student is **NOT** allowed to dispose of any needles found in a sterile tray. A technologist must dispose of all contents of a sterile tray.
- Students are able to prep a patient’s skin for an injection. Students will have a sterile competency to earn in the fourth clinical semester. Once competency is earned, a student can prep, but with direct supervision of a registered radiologic technologist.
RADIATION EXPOSURE

Every attempt is made to limit the amount of occupational dose a student receives while in the program. The program cannot promise that any student will not receive radiation exposure while in the program. ALARA is a concept that every technologist practices and students will also adhere to this very strict policy regarding radiation exposure.

- Students will NOT, under any circumstance, be expected to or asked to hold a patient or radiographic accessory during an exposure. If a student is asked, that student must report this to the program director immediately. Failure to follow this can result in dismissal from the program.
- Students will wear appropriate shielding devices when working with fluoroscopy in a radiographic/fluoroscopic suite or in the operating room. Thyroid collars, wrap around aprons, gloves, and leaded eye-ware are available for students to wear. The department will provide necessary shielding, and if an apron does not properly fit, a new apron will be provided at no cost to the student.
- Students are provided with radiation exposure monitoring. This involves the wearing of a badge monitor at collar level (outside of a lead apron during fluoroscopy). Students are expected to wear this badge monitor at all times in the clinical setting. If a badge is lost or damaged, prompt notification of the program faculty is required. Students must treat these monitors carefully since the monitors are sensitive to all energies (including microwave, solar). Please do not leave in car in direct sunlight or near microwave or convection ovens. This can cause false readings.
- Every month the radiation badge monitors are replaced and the old monitor must be returned to the TC campus by the 10th of every month. This date is crucial in order to make the mail date and get the monthly badge report results back timely.
- Film badge information will be available to students within 30 school days following receipt of data from the monitoring company and each student will be given the report of radiation exposure from the monitoring company for the previous month. There is a unique four digit number found on the back of each monitor for each student. Your radiation report will be found with that four digit number. (This number is also used as your school ID code).
- Every month each student must make a copy of the official report and initial and date by his/her exposure total and submit to program faculty by using the lockbox in clinical coordinator’s office. This will ensure that each student is aware of his/her occupational dose levels. If exposure values are exceeding the minimum levels set, modifications are needed in work practices and will be addressed when needed. The program will work closely with the radiation safety officer when needed.
- The timely submission of badges and reports is a component of the clinical grade every semester. Failure to follow program policy concerning radiation exposure will occur in the clinical grade.
- In the event of declared pregnancy, please see the student handbook for policy regarding monitoring of radiation exposure.
**CLINICAL PROBATION**

A student must achieve a “C” or higher in all clinical semesters. If a student is below 80% at the end of a clinical semester, he/she can be dismissed from the program under the discretion of the Program Director.

If the student remains in the program, he/she is placed on Clinical Probation. The probationary period will last for one full semester after the student is placed on probation or a minimum of 12 weeks, whichever is longer. This probationary period allows the student in the succeeding semester to bring his/her clinical grade up to an academic minimum of 80%. The scoring system is the same grading scale used for academic standards. If the grade is not brought up to a minimum, the student is dismissed from the program. A student can be placed on clinical probation for, but not limited, to the following:

- Consistently demonstrating a poor attitude about clinical education
- Consecutive semesters with poor clinical coordinator evaluation grades
- Difficulty working or relating to patients
- Unsatisfactory scoring in proficiency re-checks or re-comps
- Not following direct/indirect supervision
- Falsifying documentation
- Unable to build effective team relationships with faculty and/or staff
- Failing to follow mandatory shielding protocol
- Unable to consistently mark images correctly and legally
- Other equally important offenses

Once on probation, areas of improvement will be identified. An improvement plan is developed by the student after faculty gives specific recommendations. Students who complete the improvement plan successfully and makes every attempt to better themselves clinically, and successfully pass the stipulations at the end of the probationary period, and earn 80% or better for his/her clinical grade will come off of clinical probation.

If a student is unable to earn 80% or better for the clinical grade of his/her probation semester, the student will be dismissed from the program.

Any student needing additional instruction is encouraged to seek out and ask the program faculty for help and not wait until this process is necessary.
INDIRECT/DIRECT SUPERVISION AGREEMENT

Until a student achieves and documents competency in any given procedure, all clinical assignments shall be carried out under DIRECT supervision of qualified radiographers. The parameters of DIRECT supervision are:

1. A qualified radiographer reviews the request for examination in relation to the student’s achievement.
2. A qualified radiographer evaluates the condition of the patient in relation to the student’s knowledge.
3. A qualified radiographer is present during the conduct of the examination.
4. A qualified radiographer reviews and approves the images.
5. A qualified radiographer is present during the repeat of an image.

After competency has been demonstrated, the student, may perform the procedure under INDIRECT supervision. The parameters of INDIRECT supervision are:

1. A qualified radiographer must be in the immediate area (within hearing distance) to offer assistance, if necessary.
2. All images must be approved by a qualified radiographer before patient is dismissed from radiology department or exam room.
3. All repeat images must be performed under DIRECT supervision (bladder shots require direct supervision).
4. Both the student and radiographer initials should be included within the electronic documentation.

Five (5) points shall be deducted from the student’s clinical grade if he/she does NOT adhere to the above Direct/Indirect supervision policy and/or who does NOT have a repeat image performed under DIRECT supervision. The student will also be placed on probation for the remainder of the program. Any other occurrences, Immediate dismal from program will occur.

By signing this agreement form, the student agrees to adhere to the above policy and consequences.

Student Signature: ___________________________________________________________

Date: ______________________________________________________________________
CRITICAL THINKING AND ARTICLE REVIEW ASSIGNMENTS

Two (2) critical thinking assignments are due each semester along with one (1) article review. The intent of these assignments is to develop professional skills. The critical thinking exercises will increase a students' ability to quickly assess clinical situations and come up with safe solutions. The article review will help its practitioners to stay abreast of the emerging technology and imaging trends. The students will be assigned a specific topic to research and write a short review using proper sources and APA format. Specific grading rubrics will be discussed during intro to radiologic technology course in semester one.

<table>
<thead>
<tr>
<th>Semester Due</th>
<th>Case Study #</th>
<th>Article Review Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.14, 2.15</td>
<td>Fluoroscopy (Equipment, Digital, Rad Protection)</td>
</tr>
<tr>
<td>2</td>
<td>2.9, 2.2</td>
<td>Radiation Therapy (Cyberknife, Brachytherapy, Gamma Knife)</td>
</tr>
<tr>
<td>3</td>
<td>2.5, 2.21</td>
<td>Digital Imaging Equipment/Techniques</td>
</tr>
<tr>
<td>4</td>
<td>2.18, 2.19</td>
<td>PET Scan</td>
</tr>
<tr>
<td>5</td>
<td>2.11, 2.12</td>
<td>Interventional or Cardiac Imaging</td>
</tr>
<tr>
<td>6</td>
<td>2.22, 2.23</td>
<td>CT Scan (history, perfusion, etc.)</td>
</tr>
<tr>
<td>7</td>
<td>2.3, 2.24</td>
<td>Mammography including Tomosynthesis</td>
</tr>
<tr>
<td>8</td>
<td>2.25, 2.7</td>
<td>MRI (MRA, Functional MRI, etc.)</td>
</tr>
</tbody>
</table>

The article must be from a reputable source—this includes print or electronic sources. Anything submitted late will be deducted 1 point for each day late.
Case 2.14 The Patient Who Refuses an Examination

⇒ **Prerequisites**

Before attempting this case study, the student should be knowledgeable of 28:

- Medical ethics and law
- The Patient’s Bill of Rights

Description: It is lunchtime and you have had a very difficult day. Your last two patients required a great deal of forbearance. Your next patient is a 79-year-old woman who is scheduled for a barium enema examination. You know that this examination is going to be extremely difficult to perform because you have read the patient’s clinical history, which states that she has rectal bleeding. She arrived in the department via stretcher. She has just had a sigmoidoscopy and appears to be very tired.

The patient has soiled herself, and you must clean her before you can even start the examination. You have to review her chart to make certain that the examination has been ordered and that the consent form has been signed. You find all paperwork is in order.

As the patient moves onto the x-ray table, she complains about the hardness of the table and the temperature of the room. You bring warm blankets for the patient. You then gently explain the examination to her, telling her that you will do everything you can to make the examination as comfortable as possible. You explain to her the importance of holding the barium and she says that she does not think she can. You obtain a scout radiograph of her abdomen. (A scout radiograph is the first radiograph taken before contrast media are used). At this time, you tell her that the radiologist will soon be in the room to begin her examination. The patient begins to cry and asks, “Why are you doing this to me?” You explain that her doctor has ordered this examination. From reading her clinical data, you know that the patient has terminal cancer. You wonder why you’re doing this to the poor woman. Why don’t they just let her die in peace? You stand next to her and hold her hand. What is your next action?

⇒ **Identify the Following**

**GOAL**

**OBSERVATIONS**

**OPTIONS AND CONSEQUENCES**
Case 2.15 The Patient with Alzheimer’s Disease

⇒  Prerequisites
Before attempting this case study, the student should be knowledgeable of:

- The nature of Alzheimer’s disease
- Medical ethics and law
- The Patient’s Bill of Rights

Description: Your patient is a 71-year-old man suffering from Alzheimer’s disease. He has been scheduled for a radiograph of the chest. He has dyspnea and is in a wheelchair with IV pole. His physician believes he may pneumonia. As you bring the patient into the radiography room, he begins screaming and tries to get out of the chair. You speak calmly to him and explain that he is about to have a radiograph of his chest. You explain to him that it will not hurt and you will take the radiographs with him sitting in the chair. He seems to understand.

You have placed a cassette behind his back and positioned him for his chest radiograph. As you turn the x-ray tube toward the patient, he once again begins to scream. He leans forward and the cassette crashes to the floor. This increases his anxiety and he jumps out of the chair. The IV pole crashes to the floor. What do you do?

⇒  Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.9 The Geriatric Patient

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of:

- Satisfactory positioning for chest radiographs
- Geriatric care
- The relationship of the placement of the central ray in regard to radiographic distortion

Description: Your patient is an ambulatory 76-year-old woman with extreme kyphosis. Her physician has ordered a chest radiograph. As you begin to position the patient for the PA projection of her chest, you notice that the distance between her chest and the upright grid is considerable. Her kyphosis and her limited ability to lift her chin cause this distance. What will you do to best demonstrate the patient’s chest?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.2 Hand (Extremity) Positioning

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of:

- Hand positioning
- Skeletal anatomy
- The placement of the central ray
- Adaptation of positions because of patient's condition
- Pathology in relation to positioning

Description: Your patient is a 35-year-old man who has rheumatoid arthritis of both hands. He recently injured both hands during a fall. You have been asked to radiograph each hand and each wrist. As you prepare to radiograph the patient's hands, you notice that he is unable to straighten his fingers. You also notice that the skin on both hands appears very taut. It is obvious that straightening them will not be an option. What do you decide is the best way to position his hands?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.5 Positioning for the Gastrointestinal Examination

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of¹²:

- Positioning patients satisfactorily for upper gastrointestinal (UGI) examinations
- Anatomy of the GI system
- The use of contrast media

Description: Your patient has arrived for his UGI series and the procedure begins. The patient thoroughly dislikes the taste of the barium. In fact, you have had to coax him to drink the little he has had so far. You know how important barium is for this study. Halfway through the fluoroscopic examination, the radiologist tells you that the patient has hypermotility of the GI tract. You are to give the patient more barium before each exposure is taken. The radiologist completes her portion of the examination, leaving the patient in the right anterior oblique (RAO) position on the radiographic table. As you begin to prepare for your overhead radiographs, the patient continues to complain about drinking the barium. What do you do?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.21 Multiproblematic: Barium Enema Examination for a Geriatric Patient

⇒ **Prerequisites**
Before attempting this case study, the student should be knowledgeable of:\(^40,41:\)

- Barium enema examinations
- Geriatric patient management

Description: Your patient is a frail 96-year-old woman scheduled for a barium enema examination. She came from a local nursing home and has arrived in your department via stretcher. You immediately recognize her. Last week, you performed a GI series on her. As you begin to introduce yourself, you realize that she is no longer the alert woman that you met last week. She is extremely tired and a bit confused.

As you prepare the room for her examination, you place a mattress on the table. You prepare the contrast for the examination and take a scout film of her abdomen.

The patient and room are ready for the examination. You are preparing to insert the enema tip when you suddenly realize that the patient is wearing the same exact hospital clothes that you put on her last week. You become upset over this. What do you do?

⇒ **Identify the Following**

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.18 High-kVp Techniques in Gastrointestinal Examinations

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of 35:

- GI positioning and procedures
- High-kVp techniques

Description: Your patient is scheduled for a GI series. You have prepared the x-ray room for the examination. You have measured the patient for the scout film. Using the exposure technique chart, you have located a technique for 22-cm abdomen. This exposure technique calls for the following: 10 mAs @ 80 kVp. You have shown the radiograph to the radiologist. On viewing the radiograph, he has requested a high kVp technique. How do you proceed?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.19 Manual versus Automatic Exposure Techniques

⇒ **Prerequisites**
Before attempting this case study, the student should be knowledgeable of 36-38:

- AEC devices
- Manual exposure technique
- GI anatomy

Description: Your patient is a 65-year-old woman who had a barium enema examination 2 days ago. Today she is scheduled for a UGI series. As you evaluate the patient, you notice that she is morbidly obese. You are uncertain if you should set a manual exposure technique or use the automatic exposure control device. You are also uncertain if you should use a rare earth screen. After careful thought, you decide to proceed as follows.

⇒ **Identify the Following**

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.11 The Psychotic Patient

⇒ **Prerequisites**
Before attempting this case study, the student should be knowledgeable of 23:

- Communicating with a psychotic patient
- Positioning

Description: You are in the ED. Your patient is a 55-year-old woman with a history of mental illness. The police found her walking in the middle of the road, arguing with an imaginary partner. The police have brought the patient to the hospital because she has multiple injuries to her face and hands. The physician in charge has ordered a facial bones series and bilateral hand radiographs. You have prepared the room for her arrival. The examination is progressing well when suddenly the patient begins to speak loudly. She is apparently arguing with someone named Bill. Bill is not present in the room. She is becoming more and more agitated.

⇒ **Identify the Following**

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.12 The Patient in Trauma

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of 24,25:

- Positioning cervical spines
- Patient care for the patient in trauma
- Coworker relationships

Description: Your patient is a 25-year-old man who was injured while diving into a shallow swimming pool. He is very muscular and stocky. He is supine on a stretcher and sandbags are placed on the sides of his head. The doctor has ordered a cervical spine examination. With the patient in the supine position, you have taken a lateral image of the cervical spine using a horizontal central ray. This radiograph demonstrates five cervical vertebrae, C1 through C5. The radiographer with whom you are working has stated that the only way to demonstrate the last two vertebrae is to pull the patient’s shoulders down. He quickly puts on a lead apron and gloves and announces that he is “just going to yank his shoulders down a bit.” You do not feel comfortable with this announcement. What do you do?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.22 Multiproblematic: The Pregnant Patient in Trauma

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of 42-45:

- Radiation protection
- Positioning and technique setting skills

Description: You have been called to the ED to x-ray a 27-year-old woman. According to the requisition, you are to obtain radiographs of her pelvis, bilateral femurs, and lower legs. You quickly set up the room and prepare for the examination. When the patient is brought into the room, she tells you that she is 3 months pregnant.

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.23 Multiproblematic: Lack of Radiation Protection in Trauma Situation

⇒ **Prerequisites**
Before attempting this case study, the student should be knowledgeable of 46,47:

- Position of trauma patients
- Radiation protection

Description: Your patient is a 45-year-old man. According to the nurse, the patient is a carpenter who has fallen from a scaffold and injured his dorsal spine, lumbar spine, pelvis, and both femurs. He has arrived in the trauma center in the supine position. The physician in charge has requested that the patient not be moved. All radiographs are to be taken portable and with the patient in the supine position. The physician has ordered the following examinations:
  - Bilateral femurs
  - Dorsal spine
  - Lumbar spine
  - Pelvis

You have organized the examination in the following order:
  - Lateral dorsal spine (cross table)
  - Lateral lumbar spine (cross table)
  - AP dorsal spine
  - AP lumbar spine
  - AP pelvis
  - AP both femurs
  - Lateral pelvis
  - Right and left lateral femurs

You have obtained all of the equipment necessary for the patient’s examination. The physician is very impatient for the radiographs and you feel pressured. You therefore quickly position the portable unit for the dorsal spine radiograph. You announce that you are about to take an exposure. The nurse in charge yells out that she does not have an apron. What do you do?

⇒ **Identify the Following**

**GOAL**

**OBSERVATIONS**

**OPTIONS AND CONSEQUENCES**
Case 2.3 Multiproblematic: Organization in a Trauma Situation

⇒ **Prerequisites**
Before attempting this case study, the student should be knowledgeable of:

- Position of trauma patients
- Efficiency of performance
- Assessing patient status
- Medical-legal situations

Description: Your patient is a 45-year-old man. According to the nurse, the patient is a belted passenger in an automobile which has just been struck on that side of the car during a high-speed collision. He has arrived in the trauma center in the supine position and in considerable pain with life-threatening injuries. The patient complains of pain in his chest, abdomen, lumbar spine, pelvis, and both lower extremities. All radiographs are to be taken portable and with the patient in the supine position. The physician has ordered the following examinations:
  - AP pelvis
  - AP and lateral LSP
  - AP and lateral of both femurs
  - AP and lateral of both lower legs

Physician has not yet ordered a supine chest or abdomen film.

You have obtained all of the equipment necessary for the patient’s examination. You will have to prioritize to do which views are the most important and work in an efficient manner.

You have begun to set up for your first radiograph when the patient announces that he has difficulty in breathing and his abdomen is very sore. How do you proceed?

⇒ **Identify the Following**

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.24 Multiproblematic: The Pediatric Patient with Multiple Trauma

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of 48-51:

- Positioning all parts of the body
- Skeletal anatomy
- Pediatric positioning, procedures, and pediatric care
- Organizing a trauma examination to improve efficiency

Description: The patient is a 9-year-old boy who has been hit by a car. He is currently in the trauma room. The patient has sustained injuries to his pelvis and femoral areas. You have just been given a list of the areas that you are to x-ray. They are:

- Pelvis
- Chest
- Abdomen
- Bilateral femurs

You decide that the most efficient order in which to obtain these radiographs is as follows:

- Chest
- Abdomen
- Pelvis
- AP femurs
- Lateral femurs with a horizontal central ray

You have obtained all of the equipment you will need and are just about to proceed with the examination when, on entering the trauma room, you suddenly realize that your patient is your neighbor. You are trying to focus on your work, but all you keep thinking about is what a nice kid he is. What should you do?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.25 Multiproblematic: Radiation Protection in Surgery and the Unreasonable Orthopedist

⇒ Prerequisites
Before attempting this case study, the student should be knowledgeable of 52:

- Radiography in the surgery suite
- Radiation protection
- Communicating with other health-care workers

Description: You are working in surgery today, obtaining radiographs for a hip-pinning procedure of the right hip. You have brought the C-arm and monitors into the room before the start of the procedure. You have positioned the equipment with the orthopedic surgeon’s preference in mind and hung the patient’s initial radiographs (pelvis and hip) on the view boxes. The patient has been brought into the room and moved onto the surgery table, where you have positioned the patient and the C-arm. You are about to take a scout exposure of an AP projection of his hip. You announce that you are about to make an exposure. Suddenly the orthopedist screams that he does not have a lead shield. He immediately walks over to you and positions his face inches away from yours. He begins yelling at you that it was your responsibility to provide him with a lead apron or a lead shield wall. What should you do?

⇒ Identify the Following

GOAL

OBSERVATIONS

OPTIONS AND CONSEQUENCES
Case 2.7 Positioning in Surgery

⇒ **Prerequisites**
Before attempting this case study, the student should be knowledgeable of 16,17:

- Performing radiographic examinations in the surgical suite
- The use of the C-arm
- Anatomy

Description: You are in the surgical suite using the C-arm for insertion of an infusion port catheter. It is your responsibility to fluoroscope the patient’s chest while the physician inserts the catheter into the subclavian vein, through the patient’s superior vena cava, and finally into the right atrium. The case is proceeding as expected. The C-arm (portable fluoroscopy unit) is in position over the patient's upper abdomen, as requested by the physician. You have not yet fluorosceded. The C-arm is energized and all room personnel are protected with lead. You are on standby. The physician suddenly asks for fluoroscopy. You begin to fluoro, but you are not able to see the catheter. You quickly look at the monitor and try to move the C-arm over the area of interest. You are still unable to locate the catheter tip. At this point, the physician becomes impatient. You continue to move the C-arm more into the chest area, but you are still not over the catheter. You begin to panic. The physician suddenly states, “Get someone in here who knows what they’re doing!” What do you do?

⇒ **Identify the Following**

**GOAL**

**OBSERVATIONS**

**OPTIONS AND CONSEQUENCES**
At times, the program might elect to videotape a positioning class, review exercise, or a set-up for a procedure. Once this happens, your image and or voice will be placed on you tube, but not available to the general public. The video is marked private and only those who need to see the video will have access to view it.

Please check the following choice and sign below.

☐ By checking this box, I am allowing Theda Clark School of Radiologic Technology to use my image and or voice in the interest of learning. I will consent to allow others to view this video until I revoke my consent, in writing, to program director.

☐ By checking this box, I refuse Theda Clark School of radiologic Technology to use my image and or voice.

Student Name:_____________________________________________________

Date: ____________________________________________________________
Theda Clark School of Radiologic Technology

Application for Early Release

Name ________________________________ Date __________________

I am requesting early release status.

I understand the following conditions must be met and verified by the primary clinical instructor:

1. An achievement of a minimum of a “B” (88%) in the previous Fall, Winter, and Spring semesters.
   Yes  No

2. Currently maintaining satisfactory progress in the current semester.
   Yes  No

3. The student has completed all required clinical competencies, objectives, and terminal objectives of the program.
   Yes  No

I verify that ______________________ (has), (has not) met the above conditions and (is), (is not) ready for early release.

Date __________________

___________________________
Troy Albrecht M.S., R.T.(R)(CT)
Program Director

___________________________
Stephanie Delwiche  B.S., R.T.(R)
Clinical Coordinator
Theda Clark School of Radiologic Technology
Clinical Handbook
Student Agreement

As a student in the School of Radiologic Technology program, I have read the preceding clinical policies and procedures and understand them. If there was misunderstanding concerning any of them, I have discussed that section with Program Faculty and I am satisfied with the interpretation given me. My signature below indicates that I understand the clinical policies and procedures and will, to the best of my ability, comply with them.

Student's Signature: ____________________________________________________

Date: __________________________________________