University of Alabama at Birmingham
Radiation Therapy Program
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University of Alabama at Birmingham
Radiation Therapy Program
Program Faculty

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adamsla@uab.edu

Pamela Cartright, MA.Ed. R.T. (R)(T)
Clinical Coordinator
205-934-7368
205-601-1252 (cell phone)
cartrigp@uab.edu
The following affiliates allow radiation therapy students to rotate through their clinics. This list has the site, the address and phone number, and the clinical supervisor in charge of the students at that site.

**Birmingham Affiliates:**

Baptist Medical Center: Montclair  
800 Montclair Road  
Birmingham, AL 35213-1984  
205-592-5024  
Clinical Supervisor: Darryl Hinson, A.S., R.T.(R)(T)

Baptist Medical Center: Princeton  
701 Princeton Avenue SW  
Birmingham, AL 35211 (205) 783-3243  
Clinical Supervisor: Javin Bowlin, R.T.(R)(T)

Kirkland at Acton Road  
2145 Elmer Bissell Road  
Birmingham, AL 35243  
205-978-0250  
Clinical Supervisor: Jan Carlisle, MAE, CMD, RT (R)(T)

St. Vincent’s Hospital  
2701 Ninth Court South  
Birmingham, AL 35205  
205-939-7884  
Clinical Supervisor: Janet Upshaw, A.S., R.T.(T)

University of Alabama at Birmingham  
Lurleen Wallace Tumor Institute  
1824 6th Avenue South  
Birmingham, AL 35233  
(205) 934-2600  
Clinical Supervisor: Debra Myers, R.T.(R)(T)  
Nursing Supervisor: Sheila Sparks, MSN
Out of Town Affiliates:

DCH Regional Medical Center
DCH Cancer Treatment Center
809 University Blvd. East
Tuscaloosa, AL 35401
(205) 759-7800
Clinical Supervisor: Sherri Lunceford, BS, RT (T)

Gadsden Regional Medical Center
Cancer Center
200 Medical Center Drive
Gadsden, AL 35903
(256) 494-4965
Clinical Supervisor: Clark Stewart, A.S., R.T.(R)(T)

The Center for Cancer Care One
Hospital Drive, Suite 100
Huntsville, AL 35801 (256) 880-4464
Clinical Supervisor: Mike Brantley, RT (T)

The Comprehensive Cancer Institute of Huntsville
101 Sivley Road SW
Huntsville, AL 35801-4470
Phone: (256) 517-6590
Clinical Supervisor: Jeff Shirley, RT(R)(T)

Montgomery Regional Cancer Center
4145 Carmichael Road
Montgomery, AL. 36106
(334) 273-7000
Clinical Supervisor: David Waters. B.S., R.T. (T)
<table>
<thead>
<tr>
<th>COURSE</th>
<th>TERM</th>
<th>ROTATIONS</th>
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<tr>
<td>Clinical Education I</td>
<td>Summer Semester</td>
<td>Introduction to Treatment</td>
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<td>Clinical Education II</td>
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<td>Treatment Device Construction</td>
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<td>Comprehensive Clinical Competencies</td>
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<td>Nursing Rotation</td>
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</table>
The Radiation Therapy Program requires that the student satisfactorily perform a minimum of 30 competencies in order to fulfill clinical requirements. This is more than the minimum required by the ARRT.

1. Of these 30, five are required to be repeating competency demonstrations performed in the final clinical course in order to demonstrate continuing competency. It is best to select those competencies that both the student and the clinical supervisor/instructor feel the student is weakest in. The clinical instructor and the student will work together to choose the five repeat competencies.

2. At least 25 of the 30 treatment competencies must be demonstrated on patients. The remaining 5 may be demonstrated either on another therapist (without actual treatment of course) or the Pixie Phantom if no patient experience is possible.

3. The ARRT provides a list of the required systems/procedures that must be completed and turn in at the end of the Program. As the student works through this list, a therapist must verify that the student has preformed and passed each one by initialing in the “Verified By” column. The student cannot initial for the therapist.

Periodically, the student may be required to do a clinical competency with the Clinical Coordinator. The student should be prepared to answer questions about the patient and set-up as well as to be able to do the set-up and treatment.
The following are core clinical competencies in Treatment that all individuals must demonstrate in order to establish eligibility for participation in the ARRT Radiation Therapy Examination. Students must demonstrate competency in each of the mandatory systems. A therapist must initial in the “Verified By” column that the student did perform that particular procedure and system required by the ARRT. This form is to be turned in to the Clinical Coordinator at the completion of the Program.

<table>
<thead>
<tr>
<th>Site</th>
<th>Mandatory</th>
<th>Date Completed</th>
<th>Patient/Simulated</th>
<th>Verified By</th>
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<tr>
<td><strong>Breast</strong></td>
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<tr>
<td>Primary</td>
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<td>Boost</td>
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<tr>
<td><strong>Head and Neck</strong></td>
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<td>Primary</td>
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<tr>
<td>Primary Boost</td>
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<tr>
<td>Posterior Neck Boost</td>
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<td><strong>Respiratory</strong></td>
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<td><strong>Reproductive/Genitourinary</strong></td>
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<td>Primary</td>
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<td>Boost</td>
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<td>Total Body</td>
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<tr>
<td>Mantle</td>
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<td>Abdomen/Pelvis</td>
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<td>Boost</td>
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<td><strong>Central Nervous System</strong></td>
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<td>Metastatic</td>
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<tr>
<td>Craniospinal Axis</td>
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<tr>
<td><strong>Bone and Connective Tissue</strong></td>
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<td>Primary</td>
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<tr>
<td>Metastatic</td>
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<tr>
<td><strong>Skin</strong></td>
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<tr>
<td>Primary</td>
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<tr>
<td><strong>Endocrine</strong></td>
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<tr>
<td>Primary (i.e. Pituitary, Thyroid, or Adrenal)</td>
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</tbody>
</table>
University of Alabama at Birmingham
Radiation Therapy Program
Sample Treatment Competency List

The following is a list of treatment competencies from which the student may select. Within the systems are certain set ups that are also required by the ARRT. These set-ups are in bold as well with the word mandatory beside them. All other procedures under these systems are examples of competencies the student may do to fulfill these competency requirements as well as meet the requirements of the program. You are not limited to these examples.

Breast
Primary: mandatory
   Intact Breast (tangent 2 field)
   Multi-field intact breast (3 or more fields)
   Chest wall
   IMRT
Boost: mandatory
   Scar boost with electrons
   Scar boost with photons

Reproductive/Genitourinary
Primary: mandatory
   Prostate
   Seminoma or testicular
   Cervix
   IMRT
Boost: mandatory
   Cervix boost
   Prostate boost
   Testicular boost
   IMRT

Central Nervous System
Metastatic: Mandatory
   Bilateral whole brain
   Multifield
Brain Primary: mandatory
   Multifield, bilateral, IMRT
Brain boost: mandatory
   IMRT, Multifield, bilateral, single field
Craniospinal Axis: mandatory

Bone and Connective Tissue
Primary: mandatory
   Sarcoma
Metastatic: mandatory
   C-spine
   T-spine
   Humerus
   Hip
   Rib
   L-spine

Respiratory
Primary: mandatory
   Parallel opposed lung
   Multifield lung
   IMRT
Boost: mandatory
   Lung boost off cord (oblique lung)
   Lung boost
   IMRT

Upper and Lower Digestive
Primary: mandatory
   Colorectal
   Stomach
   Esophagus
   Pancreas
Pelvic boost: mandatory
Skin
Primary: mandatory
Primary skin lesion with electrons
Total Body-electron Keloid

Head and Neck
Head and Neck Primary: mandatory
Head and Neck Mixed beam
Sinus
Bilateral head and neck
IMRT
Head and Neck primary boost: mandatory
Conventional photons
IMRT
Head and Neck Posterior Neck Boost: mandatory
w/electrons
IMRT

Hematopoietic/Lymphoreticular
Mantle: mandatory
Parallel opposed para aortic
Inverted Y or Hockey Stick
Abdomen/Pelvis mandatory
Whole abdomen
Boost mandatory
Inguinal lymph nodes
Pelvis or abdomen boost
Total Body– photons: mandatory
Sarcoma
Leukemia
Lymphoma

Endocrine
Thyroid – primary
Pituitary – primary
Adrenal – primary
Pancreas
Simulation Competencies Required by the ARRT

Simulation Procedures

<table>
<thead>
<tr>
<th>Site</th>
<th>Mandatory</th>
<th>Date Completed</th>
<th>Patient/Simulated</th>
<th>Verified By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
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<tr>
<td>Head and Neck</td>
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<tr>
<td>Reproductive/GU</td>
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<tr>
<td>Upper and Lower Digestive</td>
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<td>Hemopoietic/Lymphoreticular</td>
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<td>Central Nervous System</td>
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<tr>
<td>Bone and Connective Tissue</td>
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<td>Skin</td>
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<tr>
<td>Endocrine</td>
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</tbody>
</table>

Instructions for Selecting Simulations from Competency Categories

1. The ARRT require 11 competencies, 1 for each system. The Radiation Therapy Program requires the student to satisfactorily perform a total of 15 simulation competencies in order to fulfill clinical requirements.

2. Of these 15, three are required to be repeating competency demonstrations performed in the final clinical course in order to demonstrate continuing competency. It is best to repeat those competencies that the student is weakest in. The clinical instructor or designee and the student both should select the three repeat competencies together.

3. A therapist must verify that the student has preformed and passed each of the required simulation competencies by initialing in the “Verified By” column on the form. A student may not initial for the therapist. The completed form is to be turned in to the Clinical Coordinator at the end of the Program.

4. If a procedure such as an electron set-up or whole brain is done on the treatment table instead of in the simulator, this will count as both a simulation and a treatment competency if the student is doing both. The same form cannot be used for both since they are two separate types of competencies.

5. A minimum of 10 simulation competencies must be demonstrated on patients. The remaining 5 may be simulated on either the Pixie Phantom or on another therapist IF no patient experience is possible.

6. If the student has access to both a conventional simulator and a CT simulator, the student is encouraged to have competencies on both machines.
Periodically, the student may be required to do a competency with the Clinical Coordinator. The student will be required to answer questions in addition to doing the set-up. The student should be familiar with billing (simple, intermediate, complex), know the placement of information within the patient’s chart (pathology, consent form, lab, x-ray reports, etc.), be able to write up a treatment chart with the correct simulation information, and be able to discuss the patient’s work-up for staging, and the patient’s history.

The following is a list of simulation competencies from which the student may select. The systems required by the ARRT are in bold. All procedures under these systems are examples of competencies the student may do to fulfill these competency requirements as well as meet the requirements of the program. You are not limited to these examples.

**Breast**
- Intact breast (tangent 2 fields)
- Multi-field intact breast (3 or more fields)
- Chest wall
- Scar boost

**Head and Neck**
- Bilateral head and neck-primary
- Multifield (3 or more fields)
- Multifield using IMRT
- Head and neck boost-primary
- Head and neck mixed beam
- Neck boost off cord with electrons
- Sinus

**Respiratory: Primary and Boost**
* (You must a primary and a boost)*
- Parallel opposed lung-primary
- Lung boost off cord

**Central Nervous System**
- Bilateral partial brain
- Bilateral brain boost
- Craniospinal Axis
- Multi-field brain

**Bone and Connective Tissue**
- Rib
- Sarcoma
- Posterior Spine
- Bilateral C-spine
- Parallel opposed extremity

**Reproductive/GU**
- Prostate Boost
- Four-field box
- Multifield Pelvic boost
- Testicular (seminoma)

**Upper and Lower Digestive**
- Parallel-opposed esophagus
- Parallel-opposed abdomen
- Pelvic boost
- Three-field rectum
- Multi-field pancreas
- Esophagus boost off cord
- Whole Abdomen

**Hematopoietic/Lymphoreticular**
- Mantle
- Total body – photons
- Abdomen/pelvis boost
- Inverted Y or hockey stick
- Parallel opposed para aortic

**Skin**
- Skin lesion
- Keloid or Total body – electrons

**Endocrine**
- Pituitary
- Thyroid
- Adrenal
University of Alabama at Birmingham  
Radiation Therapy Program  
Dosimetry Competencies Required by the ARRT

Fill out the following form and turn it in at the end of the rotation with your supporting documentation to your clinical supervisor.

<table>
<thead>
<tr>
<th>ARRT Dosimetry Competency Requirements</th>
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<tbody>
<tr>
<td>Required Calculations</td>
</tr>
<tr>
<td>Single open field</td>
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<tr>
<td>Parallel opposed fields with blocks</td>
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<tr>
<td>Geometric Gap</td>
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<tr>
<td>Weighted fields</td>
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<tr>
<td>Wedged fields</td>
</tr>
<tr>
<td>Computer generated isodose plan</td>
</tr>
<tr>
<td>Electron Field</td>
</tr>
</tbody>
</table>

The Radiation Therapy Program requires more than the minimum asked for by the ARRT. The student is required by the Program to complete computer generated isodose plans and back up hand calculations of the following:

1. Single open field  
2. Parallel opposed fields with blocks  
3. Geometric Gap  
4. Wedged fields  
5. Weighted fields  
6. Electron fields  
7. Multifield technique (3 or more fields)

Sometimes, the facility does not do computerized isodose curves on certain fields, i.e., electron fields. If this is the case, hand calculations alone may be done.

Students will spend four weeks in the dosimetry area to practice basic and intermediate functions associated with treatment planning. The dosimetry instructor as well as the student should sign the completed competencies. Students must submit the completed competency checklists required by the ARRT as well as the competencies to the Clinical Supervisor upon completion. As always, the student should make a copy of everything for his or her own personal records.
The ARRT requires that the student be able to fabricate the following Beam Modification Devices:

<table>
<thead>
<tr>
<th>BEAM MODIFICATION DEVICES</th>
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<tbody>
<tr>
<td>Competency Requirement</td>
</tr>
<tr>
<td>Custom Photon Block</td>
</tr>
<tr>
<td>Custom Electron Block</td>
</tr>
<tr>
<td>Bolus</td>
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<tr>
<td>MLC</td>
</tr>
</tbody>
</table>

Upon completion of the beam modification device competencies, the student will turn the completed form into his/her clinical supervisor to keep for the Clinical Coordinator. Each competency must be verified by the clinical instructor/supervisor by initialing in the “Verified By” column. The student is not allowed to initial for or in the place of the clinical instructor/supervisor.
The ARRT strongly recommends that students observe brachytherapy procedures in the course of their clinical education, although students are not expected to demonstrate clinical competency in brachytherapy in order to establish eligibility for ARRT certification.

The Radiation Therapy Program at UAB requires that their students observe and participate in a minimum of two brachytherapy procedures during the course of the clinical rotations. It is best if the student observes and participates in a variety of HDR and LDR procedures. Examples would be:

1. Mammosite for breast
2. Prostate seed implant
3. Thyroid
4. Pterygia
5. Cervix
6. Lung
7. Vagina

<table>
<thead>
<tr>
<th>Procedure</th>
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<th>Verified By</th>
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University of Alabama at Birmingham  
Radiation Therapy Program  
Student Responsibilities

The following responsibilities are expected of the students by the Program.

A. Incorporate oneself into the individual department routine. Starting times, coffee breaks and lunch periods are scheduled according to scheduling and staffing needs and constraints of the assigned affiliate.

C. Consistently attend all scheduled clinicals on time.

D. Wear student ID badges and personnel monitoring devices. Film badges are to be worn at the middle of the chest. Ring badges must be worn during all brachytherapy procedures.

E. Wear clinical attire as specified by the Dress Code.

F. Take responsibility for all clinic paperwork.

G. Perform all radiation therapy procedures under direct supervision of a qualified practitioner. Never treat alone.

H. Observe Universal Standard Precautions when handling patients or patient specimens.

I. Demonstrate professional behavior at all times by:

1. Refraining, as per HIPPA, from any discussion concerning the patient with colleagues in patient areas and/or in any way that is not pertinent or relevant to the procedure or patient care.

2. Refraining from criticizing and/or comparing hospitals, therapists or other students.

3. Refraining, as per HIPPA, from speaking inappropriately within the patient’s hearing range.

4. Refraining from extraneous or boisterous conversation while any procedure is in progress. Always act in a professional manner.

5. Avoiding the display of emotional reactions (distaste, disgust, surprise) in the presence of patients. Leave the room if necessary.

6. Displaying concern, patience and interest in the patient.
7. Maintaining confidentiality of patient records and/or any information offered by the patient as per HIPPA. (Section XII, Appendix A contains the Patient’s Bill of Rights)

8. Refraining, as per HIPPA, from discussing one patient with another.

J. Demonstrate professional judgment and responsibility by:

1. Observing the rules and regulations of the department.
2. Working in an orderly fashion with the assigned clinical instructor.
3. Considering consequences before acting.
4. Recognizing which decisions require approval.
5. Recognizing own limitations and responsibilities in the work situation.
6. Adjusting the pace to situation requirements.

K. Assume some responsibility for one’s own learning by:

1. Utilizing all available resources (e.g., books, journals, charts, health team personnel).
2. Using unstructured time wisely.
3. Functioning without prodding.
4. Showing interest by asking questions and seeking new learning experiences.
5. Accepting constructive criticism gracefully.
7. Reviewing the STANDARDS FOR AN ACCREDITED EDUCATIONAL PROGRAM IN RADIOLOGIC SCIENCES, which has been adopted by the Joint Review Committee on Education in Radiologic Technology. A copy of this document is in the appendices of the student policy manual.
University of Alabama at Birmingham  
Radiation Therapy Program  
Clinical Rotation Policy

The Program Director or Clinical Coordinator will schedule clinical site assignments. The first clinical course will consist of orientation to the various areas that comprise a radiation oncology department. Students will then spend a prescribed number of hours per week in the assigned clinical affiliates for the remaining terms.

Students are not guaranteed a clinical rotation at each clinical site. The students are guaranteed exposure to a variety of treatment modalities and methodology with the goal of preparing the student to become an entry-level radiation therapist at the end of the program.
University of Alabama at Birmingham
Radiation Therapy Program
Clinical Attendance Policy

The following policies and procedures are to be followed by the students during their assigned clinic rotations. Failure to follow the following policies by the student will result in at least a formal written counseling session with the Clinical Coordinator and/or the Program Director. Repeated offensives will result in removal from the program.

1. Students are limited to a combined clinical and academic involvement of no more than forty hours per week, as per JRCERT Standard 7.8.

2. Punctual attendance is mandatory; 5 minutes after the hour is a tardy. The time missed as tardy is to be made-up and shall be documented as a tardy. Two tardies equal an absence. If the student is going to be late, the student must call and speak directly to the clinical supervisor at the assigned facility as well as the Clinical Coordinator. After 4 absences within the semester, the Clinical Coordinator/Program Director will counsel the student with a written warning. If the absences continue, the student will be placed on probation. If absent during the probationary period, the student must provide a doctor’s excuse. If absent without cause, the student may then face dismissal from the program (see first paragraph).

3. At the beginning of each day and the end of each day, the student will report to the clinical supervisor to let them know that the student is either on the premises or leaving the premises. The same applies to the lunch period. The student will sign in and out on the sign in sheet provided at the assigned station for that rotation.

4. If the student must leave the clinic for a brief time during regularly scheduled hours, the student must first ask the Clinical Supervisor for permission to leave the clinic. The student will then report immediately to the Clinical Supervisor upon returning to the clinic before going to the assigned area of rotation.

5. If the student wishes to visit another Cancer Center for purposes of assessment and interview, the student may count this as a clinic day. The student is only allowed to do this for a 5 day total for the course. This privilege may only be used during the last semester of clinic and must be cleared by the Clinical Coordinator. The student must document their attendance at the other Cancer Center by signing and having the supervisor for that site sign the appropriate form for arrival and departure.

6. If the student must be absent on a scheduled clinic day, the student must call both the Clinical Supervisor of the assigned facility and the Clinical Coordinator. Telling someone else or leaving a message does not count. The student is allowed two personal days for each semester (not each rotation) to take without penalty.
After the two personal days have been used, the student will lose 2 points off the final clinical grade. If the student has a doctor’s excuse for the missed day, the student will be allowed to make that day up. Unexcused absences cannot be made up. If the student must miss a day for other than illness, and has it approved AHEAD of time, that student may make that day up on a Friday. It must be made up in the same rotation as the absence occurred.

a. Doing warm up does not count as missed patient care time in treatment or in simulation.

b. The clinical supervisor must approve the make-up day beforehand.

c. For each unexcused or unapproved absence beyond 2 days, two points will be deducted from the final grade.

d. For those who are assigned to an out of town site, that student may email the Clinical Coordinator THAT DAY rather than place a long distance phone call.

7. The Program Director or the Clinical Coordinator will develop the rotational schedules. These schedules can be subject to change, but change will be kept to a minimum whenever possible. Rotational schedules for the next term will be distributed by the middle of the preceding term to allow appropriate planning by the student.

A copy of the student clinical schedule will be distributed to each Clinical Supervisor within the same timeframe.
University of Alabama at Birmingham  
Radiation Therapy Program  
Clinical Grading and Evaluation

Clinical Grading Policy

1. An evaluation of student performance, both behavioral and technical, is completed by the clinical instructor(s) at the conclusion of each rotation.

2. The final clinic grade is based upon performance of:
   Psychomotor (Technical) Objectives
   Cognitive Objectives
   - Clinical papers
   - Journal (during the Summer Semester)
   - Case studies: 2 in the Fall and 2 in the Spring Semester
   Affective (Behavioral) Objectives

3. Specific weights are given to each area and documented on individual clinical course syllabus

4. The grading scale for clinical courses is the same as that for didactic courses.
   
   \[
   \begin{align*}
   A &= 92 - 100 \\
   B &= 84 - 91 \\
   C &= 75 - 83 \\
   D &= 67 - 74 \\
   F &= 0 - 66
   \end{align*}
   \]

The Evaluation Process:

Students are responsible for all clinical evaluation paperwork. Students are responsible for making copies of the evaluation forms as they are needed for each rotation. A master copy of each form is available on-line. The first page of each form contains the objectives of the evaluation and instructions for completing the form.

All Personal and Professional, QA, and Competency forms are submitted to the Clinical Supervisor of the assigned site. The Clinical Coordinator will pick up the forms when on a scheduled site visit.

The Student Evaluation of the Clinical Course will be kept by the student and submitted to the Clinical Coordinator at the end of each site rotation. If the semester rotation included more than one visit to a site, the student should submit only one (1) evaluation per site.
End of term clinical paperwork should include the following forms:
1. Personal and professional growth assessments for each rotation (except for the RTT 350: Clinical Education I rotation)
2. Specific competency evaluations for each rotation
3. QA competencies per treatment machine rotation
4. QA competencies per simulation rotation
5. Evaluation of each clinical experience (1 per site)

Forms MUST be signed and dated by both the clinical supervisor/instructor and student in order to be accepted. An incomplete may be assigned to the semester if the paperwork is incomplete.

Note: If the student cannot complete the required clinical coursework for a semester, the student may be awarded an incomplete at the discretion of the Program Director/Clinical Coordinator. The student has until the end of the next regular term to complete the clinical coursework. A grade of “I” that is not changed by the Clinical Coordinator/Program Director by the end of the next regular term automatically converts to an F.

Explanation of Grading Scale For Clinical Competencies

3 = Satisfactory Performance:
   Student performs task Consistently with no difficulty. Minimal supervision necessary to perform task correctly and efficiently. Student frequently exercises independent clinical judgment appropriately.

2 = Unsatisfactory (needs improvement):
   Student performs task with Great Difficulty. Constant supervision necessary to perform task correctly and within allotted time. Student will be scheduled for additional time in these areas to insure competency.

1 = Failure to Perform:
   Student fails to perform task despite repeated instruction and demonstration. No progress in performance has been demonstrated. Student will be scheduled for additional time in these areas to insure competency.
Students who are involved in accidents resulting in a personal injury should report immediately to the clinical supervisor who will fill out an incident report. If warranted, the student will seek medical attention from their personal physician or, if UAB student health insurance is held, the Student Health Services. In the event of an emergency, the student should proceed to the applicable emergency room. After appropriate medical care is received, the student should deliver a copy of the incident report as well as pertinent medical documentation to the Program Director. It is important that the Program Director be notified as soon as possible of the injury.
University of Alabama at Birmingham
Radiation Therapy Program
Workplace (Clinic) Hazards Policy

Students must be familiar with the policies and procedures regarding potential hazards in the clinic to which they are assigned. This should include, but is not limited to, fire, electrical, and chemical hazards. Students will be informed of the applicable guideline during their orientation to the clinical setting.
The student is expected to follow policies set down for the dress code. Failure to follow these policies will result in a formal written counseling session. Repeated offensives can lead to removal from the program.

A. An identification badge must be worn in clinic areas at all times. Failure to wear student badge will result in being sent home from clinic.

B. Students are required to wear solid color scrubs. In addition, students will need a white lab coat. Nothing else is acceptable. At no time are the students allowed to wear jeans, or street clothes during regularly scheduled clinical hours.

C. Nursing shoes or understated/white gym shoes may be worn. If gym shoes are worn, they must be kept clean. No brown or black shoes may be worn.

D. Body and/or ring badges must be properly worn each day in clinic. Ring badges must be worn when the student is participating in a brachytherapy procedure. Body Badges must be worn at all times while in clinic. Students are not permitted in clinic without rings and badges. If the student presents to clinic without the appropriate badge and ring, the student will be sent home and must make up the missed clinic time at the discretion of the clinical supervisor. Never wear a badge that has not been specifically assigned to you.

E. Jewelry, make-up, and fingernail polish should be professional and understated. Perfume and after-shave should be avoided.

F. Fingernails must be kept short to avoid scratching the patients

G. Hair should be neat in appearance. Long hair must be worn up or secured off the face. Facial hair must be close trimmed and neatly kept.
University of Alabama at Birmingham
Radiation Therapy Program
Radiation Monitoring and Counseling Policy

Arrangements for acquiring ring and body badges will be made during the first term. Badges and rings will be provided to all students during RTT 350: Clinical Education I. During RTT 351: Clinical Education II and RTT 450: Clinical Education III, badges and rings will be provided through UAB for those students scheduled for rotations in the Birmingham area. For the students scheduled for rotation out of town, the site of the rotation will provide the badge and ring for the student.

Badges should be exchanged on a monthly basis. Students must secure currently dated monitoring badges by the first day of each month. The Birmingham students may exchange their badges in RMSB, room # 453. If the first falls on a weekend, then the badge can be obtained on the Monday following the weekend. Failure to exchange badges by the due date will result in a 2-point deduction per day until returned. The point deduction will be applied to the final clinical grade. Exceptions will be negotiated with the Clinical Coordinator.

Students will be charged $4.00 for each ring or body badge lost, and will be required to write a two-page paper on the Necessity of Radiation Safety in the Clinical Area. Failure to write the required paper will result in a 5-point reduction in the final clinical grade.

Radiation Safety Policy: Monitoring and Counseling

A monthly report of radiation dosage is received by the Division of Medical Imaging and Therapy from the Radiation Safety Office, University of Alabama Medical Center. This report is sent to the Administrative Assistant of the Department.

The administrative assistant will forward this report to the Program Director/Clinical Coordinator. The list will be scanned to identify students who exceed the minimum standards established for students in the department. A student will be identified for counseling if his/her monthly radiation dose report equals or exceeds the following levels:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>(film badge)</td>
<td>whole body</td>
</tr>
<tr>
<td>U3</td>
<td>(ring badge)</td>
<td>hand and forearm</td>
</tr>
</tbody>
</table>

The Program Director/Clinical Coordinator will make an appointment with the student whose name is listed on the report to determine reason(s) for the recorded dosage. A written summary of each counseling session will be filed in the student’s advisory folder in the Program Director’s Office.

Note: If the monthly reported dose exceeds the minimum level established by the U.A.M.C. Radiation Safety Office (MPD / N.C.R.P.), that Office will investigate for cause and invoke requirements of the violation.
University of Alabama at Birmingham
Radiation Therapy Program
Syllabus: Summer 2004

Course: RTT 350 Clinical Education I
Summer 2004 (1 Semester Credit Hours; 80 Contact Hours)

Description: Fundamental clinical practice in radiation oncology: introduction to the clinical facility's equipment, techniques, and personnel.

Instructor: Pamela C. Cartright, MA.Ed, R.T.(R)(T)

Day/Time: Students are required to spend 8 hours per week in clinic for a total of 40 hours. Clinic will be 8:00 – 4:30 pm with lunch taken according to the facility.

Location: Assigned clinical affiliates.

Grading Scale: A = 92-100
B = 84-91
C = 75-83
D = 67-74
F = 0-66

Grading Criteria: Clinical objectives = 30%
Journal = 40% Clinical Summary = 30%

Evaluation: All objectives must be met. The Journal and Clinical Summary are due on the Monday following one week from the completion of the student’s 40-hour rotational period in clinic. If late, Journal and Clinical Summary grades will be dropped one full letter grade.

Criteria:

Journal: 40%
1. Final copy must be typed.
2. Must include, but is not limited to, the overall objectives #1-#5. Read this on page 2 under Clinical Objectives.
3. Each assigned clinic day must be accounted for in journal.

Clinical Summary: 30%
1. Based on the impressions of the overall clinical experience as well as the daily journal.
2. When using the journal, reference must be made to it within the text.
3. Information gathered in the rotational objectives may be included. This information must also be referenced in the text if used.
4. Must be typed, double-spaced, 2” margins above and to the left, straight edge on left margin.
5. Must be a minimum of 5 pages not to exceed 6.
6. 3 points will be deducted if any of the directions are not followed.
Clinical Objectives: 30%

Overall Objectives: Upon completion of this course, students will be able to:

1. Demonstrate understanding of the daily workings of a Radiation Therapy Department through a daily journal.
2. Explore impressions, and opinions of radiation therapy treatment practices by keeping a daily journal during the clinical rotation.
3. Compare the differences and the similarities in simulation and treatment routine found in the different clinical sites by participating in an observation rotation in the Birmingham clinical affiliates.
4. Discuss the variety of equipment used in basic radiation therapy treatment upon completion of an introductory rotation to the various treatment units at the assigned site.
5. Discuss the variety of equipment used when performing a simulation procedure upon completion of an introductory rotation in simulation at the assigned site.
6. Evaluate the overall clinical impression through the completion of a Clinical Summary based on the content of the daily journal, including the comparison and discussion demonstrated in objectives #3 - #5.

Rotational Objectives:

Introduction to treatment units: Using the appropriate forms, the student will document the ability to do the following objectives:

1. Demonstrate knowledge of where the treatment unit supplies are stored
2. Locate the emergency off buttons for the treatment unit.
3. Demonstrate the use of controls without a patient on the table
4. Attach ancillary devices to the treatment unit/couch
5. Without a patient on the table, properly place a block in the tray
6. Explain the orientation of the collimator setting
7. Set a specific field size using the collimator controls
8. Set specific distances to the tabletop using the optical distance indicator
9. Prepare the treatment table for patients
10. Correctly identify the patient for treatment
11. Help the patient on and off the treatment table using proper body mechanics
12. Be able to perform QA competency on the assigned treatment unit

Introduction to simulation: Using the appropriate forms, the student will document the ability to do the following objectives:

1. Demonstrate knowledge of film/film processing procedures.
2. Locate simulator supplies necessary for specific procedures.
3. Demonstrate radiation safety/protection practices.
4. Demonstrate the use of controls to move the simulator couch, gantry, and image intensifier.
5. Assist with patient procedures.
6. Be able to perform QA competency for CT simulator and/or Conventional simulator
7. Locate the emergency off buttons for the simulator
University of Alabama at Birmingham  
Radiation Therapy Program  
RTT 350: Clinical Education I  
Instructions and Objectives for Introduction to Treatment

**Instructions:**
The student, while not expected to perform actual treatments, is expected to observe closely and participate where deemed appropriate while on a rotation at a treatment unit. Interaction between student and staff as well as between student and patients is strongly encouraged at all levels in order to build strong communication skills. Students are instructed to use their brief time on rotation wisely, so as to be prepared for the Fall and Summer competencies required by the program.

The student will complete the following objectives while on rotation on a treatment unit. Use the **Introduction to Treatment Form** to document completion of the clinical objectives. The clinical supervisor/instructor will sign the form upon completion of the objectives by the student. The student will also sign and date the form. The student will return the form to the clinical supervisor/instructor to be kept with the student’s file. The Clinical Coordinator will pick up the current paperwork for each student when visiting the clinic site. The student is expected to maintain copies of all work.

**Clinical Objectives:** At the completion of the treatment rotation, the student will be able to: 1. Indicate the location of the supplies needed for the treatment unit. 2. Locate the emergency off switches for the treatment unit.

1. Demonstrate use of critical thinking skills by explaining how to get a patient down if faced with a power failure with the patient on the couch and the couch up in treatment position.
2. Demonstrate use of critical thinking skills by explaining what to do if a patient’s mask does not fit.
3. Demonstrate use of the controls both with the pendent and with the couch to operate the gantry, collimator, and treatment couch.
4. Attach/detach ancillary devices to the gantry and the couch.
5. Place a custom block and/or wedge into the gantry head without patient on table. 8. Explain and position the orientation of the collimator setting. 9. Set a specific field size using the pendent.
6. Prepare treatment room for patient
7. Place patient on the treatment couch in the correct position, using the correct immobilization devices if used.
8. Assist patient onto and off of the treatment couch.
9. Establish communication with patient by identifying themselves by name while escorting the patient into the treatment room.
10. Identify the critical structures within the treatment field of a patient.
11. State understanding of the correct treatment documentation within the patient’s chart.
12. Perform 2 warm-up Treatment QA competencies during rotation. Use the **Treatment QA Form** to document the competency.
### Introduction to Treatment Form

**University of Alabama at Birmingham**  
**Radiation Therapy Program**  
**RTT 350: Clinical Education I**  
**Student Name:** ____________________________________________  
**Clinical Affiliate:** ________________________________________  
**Dates of Rotation:** _______________________________________  

**Rating Scale:** Pass (P) Fail (F)  
The student must have an 85% pass rate.

<table>
<thead>
<tr>
<th>SKILL</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrates knowledge of where treatment unit supplies are stored.</td>
<td></td>
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<tr>
<td>2. Locates and demonstrate use of all emergency off switches for the treatment unit.</td>
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<tr>
<td>3. Explains how to get a patient down if faced with a power failure in which the patient is on the table and the table is up in treatment position.</td>
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<tr>
<td>4. Operates the gantry, collimator, and treatment couch using the pendant and the controls located on the couch.</td>
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<tr>
<td>5. Attaches and detaches the ancillary devices used in treatment setup to the gantry and the treatment couch.</td>
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<tr>
<td>6. Places a custom block and or a wedge into the gantry head without the patient on the table.</td>
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<tr>
<td>7. Positions the collimator at 0, 90, 180, and 270.</td>
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<tr>
<td>8. Sets a correct field size as requested by the clinical instructor.</td>
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<tr>
<td>9. Prepares the treatment room correctly for a patient.</td>
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<td></td>
</tr>
<tr>
<td>Skill</td>
<td>PASS</td>
<td>FAIL</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>11. Explains what to do if a patient's mask does not fit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Identifies himself/herself by name while escorting the patient into the treatment room.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Identifies critical structures within the treatment field.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Performs two (2) warm-up QA competencies.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
The clinical instructor went over the evaluation with the student: _____ Yes/No
Student Signature: ___________________________________________

Clinical Supervisor/ Instructor Signature: ____________________________
Date: ____________________________
EVALUATION OBJECTIVES:

At the end of the treatment orientation, the student will be able to:

- Perform start up/shut down procedures on processor
- Warm-up treatment unit according to departmental protocol
- Perform safety checks on treatment unit according to departmental protocol
- Check dose rate to verify accuracy by using radiation measuring devices and standardized conditions
- Check rotation of accelerator
- Verify accuracy of lasers and optical distance indicator (range finder)
- Check interlocks on treatment table, electron cones and door for proper operation
- Check collision safety system for proper operation
- Check emergency switches to assure proper operation
- Able to explain where to record results of QA checks as prescribed by departmental protocol
- State understanding of to whom it is necessary to report malfunctioning or unacceptable QA readings as prescribed by departmental protocol.

INSTRUCTIONS:

1. The student is expected to perform warm-up and quality assurance testing twice during the treatment orientation.

2. This competency evaluation is graded on a pass or fail basis. The student must have an 85% pass rate. If the student fails, please provide why in the COMMENT section of the competency.

3. For those areas in which the student receives a Fail, remedial instruction will be provided and the competency repeated. The scores for the first and second attempt will be averaged as part of the overall score for the QA Competency.
University of Alabama at Birmingham  
Radiation Therapy Program: RTT 350: Clinic I  
Treatment Quality Assurance (QA) Competency Form

The student demonstrates competency in Treatment Unit warm-up and quality assurance testing by doing the following:

1. Performs start up/shut down procedures on processor ________
2. Warms up treatment unit according to departmental protocol. ____________
3. Perform safety checks on treatment unit according to departmental protocol. ______
4. Checks dose rate to verify accuracy by using radiation measuring devices and standardized conditions. ______
5. Checks rotation of accelerator __________
6. Verifies accuracy of lasers __________
7. Checks interlocks on treatment table for proper operation ____
8. Checking interlocks on cones for proper operation ______
9. Checks collision safety system for proper operation ______
10. Checks interlocks on door for proper operation ______
11. Verifies accuracy of optical distance indicator ______
12. Checks emergency switches to assure proper operation ______
13. Explains where to record results of QA checks as prescribed by departmental protocol _____
14. Describes departmental protocol regarding the reporting of malfunctioning equipment or unacceptable QA readings ______

Clinical Instructor explained the rationale for the final score: Yes __ No ___

Student Signature: _______________________________ Date: __________________

Clinical Instructor's Signature: ________________________________
Total Body Irradiation is a required competency by the ARRT.

GRADING SCALE:

3 = SATISFACTORY PERFORMANCE

2 = NEEDS IMPROVEMENT OF PERFORMANCE

1 = FAILURE OF COMPETENCY

1. Explains/assists in the room set-up 3 2 1

2. Explains the rationale for the extended distance used for treatment 3 2 1

3. Explains the placement and purpose of the scatter shield 3 2 1

4. Explains the rationale for blocking the lungs for the photon field 3 2 1

5. Sets the correct dose rate and other treatment parameters at the treatment console 3 2 1

6. Assists with the port films 3 2 1

7. Observes the interpretation of the port films 3 2 1

8. Documents or explains how to document the treatment in the patient's chart. 3 2 1

9. Explains how to bill the patient for the treatment, port films, etc. 3 2 1

10. Explains what acute side effects to look for and how to cope with them when they occur 3 2 1

Student Signature: _________________________________ Date: _______

Clinical Supervisor/Instructor Signature: _________________________________
University of Alabama at Birmingham  
Radiation Therapy Program: RTT 350: Clinical Education I  
Introduction to Simulation: Conventional Simulator

Instructions:

While the student is not expected to be able to do simulations during this rotation, the student is expected to assist with those duties assigned by the clinical supervisor/instructor that are appropriate for the student. These consist of helping direct the patient with dressing/undressing for the procedures, setting up the simulation room in preparation for the next patient, cleaning and stocking the simulator room between patients and at the end of the day, and in general making the most of their time spent in their assigned area.

When and if time permits, the student is expected to practice using and becoming familiar with the equipment at the assigned facility in preparation for the Fall and Summer Clinical Competencies. The student is expected to maintain copies of all work.

Clinical Objectives: Using the appropriate forms, the student will document the ability to do the following objectives:

1. Unload and reload a film cassette used in the simulator.
3. Assess the need for the addition of the appropriate chemicals used in a film processor.
4. Locate simulator supplies necessary for specific procedures.
5. Explain the need for radiation safety/protection practices during simulation.
6. Demonstrate the use of controls to move the simulator couch, gantry, and image intensifier both from the inside of the simulation room and from the control panel.
7. Explain the use of kV, mA, mAs, and the AEC used to set technique for the simulation procedure.
8. Explain the use of the lasers in patient set-up.
10. Perform QA competencies on the conventional simulator for 4 of the 5 scheduled days of rotation.
11. Locate each of the emergency-off buttons for the simulator.

Evaluation: The skills for this rotation in the conventional simulator are rated on a pass or fail basis. The student must achieve an 85% pass rate. Any skill that the student receives a failure on will be repeated after remedial instruction has been provided. This does not invalidate the first attempt. Both are to be included in the student’s paperwork and the Clinical Coordinate will average both scores for a final grade.
Introduction to Simulation: Conventional Simulator

Student Name: ___________________________________________
Clinical Affiliate: _________________________________________
Dates of Rotation: _________________________________________
Rating Scale: Pass (P) Fail (F) The student must have a 85% pass rate.

<table>
<thead>
<tr>
<th>SKILL</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Turns the processor on/off.</td>
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<tr>
<td>2. Locates the radiographic film and loads the film bin</td>
<td></td>
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<tr>
<td>3. Loads and unloads the film cassettes</td>
<td></td>
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<tr>
<td>4. Assesses the need for more chemicals for the processor</td>
<td></td>
<td></td>
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<tr>
<td>5. Develops a simulation film through the film processor</td>
<td></td>
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<tr>
<td>6. Demonstrates knowledge of where the supplies for the simulator are kept for the different procedures</td>
<td></td>
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<tr>
<td>7. Demonstrates the correct use of the control pendent for operating the simulator couch</td>
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<td></td>
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<tr>
<td>8. Demonstrates the correct use of the control pendent for rotating the gantry, the collimator, and moving/centering the image intensifier</td>
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<tr>
<td>9. Locates the optical distance indicator (ODI) on the control pendent (also called a range finder)</td>
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<tr>
<td>10. Demonstrates the difference between a SSD and a SAD setup</td>
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<tr>
<td>11. Sets a field size with asymmetric/symmetric jaws with the control pendent</td>
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<tr>
<td>12. Explains the use of the various collimator scales</td>
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</tr>
</tbody>
</table>
13. Uses the calipers correctly when taking a separation; understands where a separation is necessary __________

14. Locates information in patient's chart needed for the sim, i.e., labwork, progress notes, consent form ______________

15. Locates all the emergency off buttons and demonstrates their use ______

16. Performs 4 warm-up QA procedures successfully __________

17. Explains the use of kV, mA, mAs, and the AEC used to set technique for the simulation procedure. __________

18. Explains the use of the lasers in patient set-up. ______________

19. Explains the need for radiation safety/protection practices during simulation. ______

Comments:

The clinical supervisor/instructor has gone over the evaluation with the student Yes ___ No ___
Student Signature: _________________________________ Date _____________________
Clinical Supervisor/Instructor Signature: ________________________________
EVALUATION OBJECTIVES

At the end of each Simulator rotation, the student will be able to:

1. Turn on the simulator for morning warm-up
2. Demonstrate knowledge of the simulator unit components and equipment
3. Locate all emergency OFF buttons for the following:
   - Couch
   - Gantry
   - Wall
4. Demonstrate use of table and/or gantry and collimator controls
5. Perform quality assurance mechanical checks prescribed by departmental protocol
6. Perform quality assurance tests on imaging devices as prescribed by departmental protocol

INSTRUCTIONS

1. The student is expected to perform 4 warm-up and testing QA procedures for the orientation rotation through the conventional simulator.

2. The clinical instructor will fill out the form the day the student performs the warm-up

3. This competency evaluation is graded on a pass or fail basis. The student must have an 85% pass rate. For those areas in which the student receives a Fail, remedial instruction will be provided and the competency repeated. The scores for the first and second attempt will be averaged as part of the overall score for the QA Competency.

4. If the student fails, please provide why in the COMMENT section of the competency. The student will receive additional training on any failed item and the warm-up repeated.
The student has demonstrated competency in the warm-up and testing of a conventional simulator by doing the following procedures. The student must demonstrate an 85% pass rate.

PASS (P) FAIL (F)

1. Sets table parameters at correct height and width at beginning of warm-up ______

2. Completes warm-up exposures using exposure technique for that facility ______

3. Checks accuracy of table parameters using optical distance indicator (ODI) ______

4. Checks the ODI readout for accuracy using the manual distance indicator (or facility's tool): ______

5. Checks collimator rotation _____________

6. Checks table parameters for accuracy by doing the following: ______
   a. Table longitudinal
   b. Table lateral
   c. Table rotation
   d. Table vertical

8. Checks field size alignment ______

9. Checks emergency ON/OFF switches on the following: ______
   a. Wall
   b. Table
   c. Console

10. Performs fluoroscopy check ______

11. Performs precision interlock check ______

12. Checks the accuracy of the lasers ______

Comments:

The clinical instructor / clinical supervisor explained evaluation: Yes___ No ___

Student Signature _____________________________________ Date: _____________

Clinical Instructor Signature ___________________________
University of Alabama at Birmingham  
Radiation Therapy Program: RTT 350: Clinical Education I  
Introduction to Simulation: CT Simulator

Instructions:

While the student is not expected to be able to do simulations during this rotation, the student is expected to assist with those duties assigned by the clinical supervisor/instructor that are appropriate for the student. These consist of helping direct the patient with dressing/undressing for the procedures, setting up the simulation room in preparation for the next patient, cleaning and stocking the simulator room between patients and at the end of the day, and in general making the most of their time spent in their assigned area.

When and if time permits, the student is expected to practice using and becoming familiar with the equipment at the assigned facility in preparation for the summer and fall Clinical Competencies. The student is expected to maintain copies of all work.

Clinical Objectives: Using the appropriate forms, the student will document the ability to do the following objectives:

1. Locate simulator supplies necessary for specific procedures.
2. Explain the need for radiation safety/protection practices during simulation.
3. Demonstrate the use of controls to operate the CT simulator both from the inside of the simulation room and from the computer control panel.
4. Assist with patient procedures.
5. Discuss the importance of constructing immobilization devices that fit through the scanner.
6. Explain how and why the CT scanner is better suited to acquire a contour of the patient.
7. Explain the importance of selecting the correct slice thickness for anatomical part to be scanned.
8. Perform QA competencies for CT simulator for each day (except the first day) of scheduled rotation.
9. Locate each of the emergency-off buttons for the simulator.
10. Demonstrate knowledge of the difference in setting spiral and axial parameters.
11. Discuss the difference in a transverse cut and an axial cut.
University of Alabama at Birmingham
Radiation Therapy Program
RTT 350: Clinic I
Introduction to Simulation: CT Simulator

Evaluation: The skills for the CT simulator during this rotation are on a pass or fail basis. The student must achieve at least an 85% pass rate. Any skills that the student receives a failing score on will be repeated after remedial instruction has been provided. This does not invalidate the first attempt. Both will be turned into the Clinical Coordinator and an average of the grades will be used as the final score.

Student Name: ____________________________________________
Clinical Affiliate: __________________________________________
Dates of Rotation: __________________________________________

Rating Scale: Pass (P) Fail (F) The student must have at least an 85% pass rate.

<table>
<thead>
<tr>
<th>SKILL</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrates knowledge of where the supplies for the simulator are kept for the different procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Identifies the components of the CT Simulator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Demonstrates the various movements of the couch without the patient on the table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sets the field margins to scan the anatomical area of interest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Locates information needed for the simulation from a patient's Chart, i.e. labwork, progress notes, consent form.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Locates all the emergency off buttons and demonstrates their use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Discusses the importance of constructing immobilization devices that fit through the scanner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Explains how and why the CT scanner is better suited to acquire a contour of the patient.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Performs 4 warm-up QA procedures successfully.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SKILLS

10. Explains the importance of selecting the correct slice thickness for anatomical part to be scanned. ______

13. Demonstrates knowledge of the difference in setting spiral and axial parameters. ______

Comments:

Instructor explained the evaluation: Yes ____ No ____

Student Signature: _________________________________ Date: ____________

Clinical Supervisor/Instructor Signature: _________________________________
EVALUATION OBJECTIVES

At the end of each Simulator rotation, the student will be able to:
1. Turn on the simulator for morning warm-up
2. Demonstrate knowledge of the simulator unit components and equipment
3. Locate all emergency OFF buttons for the following:
   a. Couch
   b. Gantry
   c. Wall
4. Demonstrate use of table and/or gantry and collimator controls
5. Perform quality assurance mechanical checks prescribed by departmental protocol
6. Perform quality assurance tests on imaging devices as prescribed by departmental protocol

INSTRUCTIONS

1. The student is expected to perform a warm-up and testing QA procedure for each day except the first day of rotation through the simulator on the CT scanner.

2. The clinical instructor will fill out the form the day the student performs the warm-up.

3. This competency evaluation is graded on a pass or fail basis. The student must have an 85% pass rate. If the student fails, please provide why in the COMMENT section of the competency.

4. For those areas in which the student receives a Fail, remedial instruction will be provided and the competency repeated. The scores for the first and second attempt will be averaged as part of the overall score for the QA Competency.
University of Alabama at Birmingham  
Radiation Therapy Program  
RTT 350: Clinical Education I  
CT Simulator Quality Assurance (QA) Competence

Pass (P) Fail (F)

The student has demonstrated 85% competency in CT warm-up and testing by:

1. Turning on the CT Scanner for morning warm-up ______

2. Locating the emergency ON/OFF buttons for the: ______
   a. Couch  
   b. Table  
   c. Wall

3. Setting control panel for exposure of BB phantom ______

4. Demonstrating use of table controls to: ______
   a. Raise /lower table  
   b. Move table longitudinally

5. Attaching ancillary devices such as water phantom correctly ______

6. Preparing ancillary devices for laser testing correctly ______

7. Setting control panel correctly for exposure of water phantom ______

8. Transferring image to Voxel-Q for archive _____

9. Checking for laser accuracy ______

10. Demonstrating knowledge of ELTP coding system by: _____
    a. Setting parameters on laser control panel  
    b. Setting parameters for table

Comments

Clinical supervisor/instructor went over the evaluation with the student: Yes __ No ___

Student Signature _________________________________ Date: ______________

Clinical Instructor(s) Signature_________________________________________
RADIATION THERAPY PROGRAM SHRP/UAB
STUDENT EVALUATION OF THE CLINICAL SITE

Course # & Title: ___________________________  Semester: Spring/Summer/Fall 20 _____.
Clinical Site:

If you rotated through more than one clinical site, please fill out a form for each site.
Write any additional comments on the back of the form.

5= Strongly Agree  4= Agree  3= Uncertain  2= Disagree  1= Strongly Disagree  0= Not Applicable

Using the above scale, rate the following characteristics:

  ____ 1. The grading criterion of the course was clear to me.
  ____ 2. I was adequately supervised while performing selected tasks.
  ____ 3. I was allowed to participate in a learning capacity in the area of my rotation(s).
  ____ 4. The clinical instructors treated me with respect.
  ____ 5. I had frequent feedback from my clinical instructor(s).
  ____ 6. The clinical instructor(s) helped me apply theory to solve problem(s).
  ____ 7. I felt free to ask questions or express my opinions to the clinical instructor(s).
  ____ 8. The clinical instructor(s) dealt fairly and impartially with me.
  ____ 9. The clinical instructor(s) were readily available when I had problems.
  ____ 10. The clinical instructor(s) demonstrated a professional attitude.
  ____ 11. I had frequent contact with my clinical supervisor.
  ____ 12. I felt that I could go to my clinical supervisor if I was having a problem in the clinic.
  ____ 13. I feel that, as a result of this clinical rotation, my grasp of the fundamentals of radiation therapy has been increased.
  ____ 14. I feel that, as a result of this clinical rotation, my technical skill level has increased.

Student: ___________________________  Date: ________________
Course: RTT 351 Clinical Education II
Fall 2004 (9 Semester Credit Hours)

Description: Fundamental clinical practice in radiation oncology: malignant conditions, methods of treatment, simulation, treatment planning, patient prognosis, treatment results.
Prerequisite: Successful completion of RTT 350.

Instructor: Pamela C. Cartright, MA.Ed, R.T. (R) (T)
Office: 205-934-7368
Cell: 205-601-1252
Office Hours: Appointment or 10:00-4:00 on non-clinic days
Schedule posted online and on door

Grading Scale:
A = 92-100
B = 84-91
C = 75-83
D = 67-74
F = 0-66

Day/Time: Students are required to spend 32 hours per week in clinic.
Monday through Thursday 8:00 – 4:30 pm
Lunch is determined according to the assigned facility policies for staff

Location: Assigned clinical affiliates.

Grading Criteria:
Rotation objectives = 40%
Personal and Professional Growth Assessment=30%
Clinical Paper = 20%
Case Studies= 10% (5% each)

Note: Student must perform the minimum number of competencies required per semester in order to meet all the rotational objectives. Failure to do so will result in a loss of 5 points from the overall clinical score.

Evaluation: By completing and passing all required rotational objectives, the student is evaluated as to clinical competency on an introductory level in simulation, treatment, and dosimetry.

Written communication skills and assimilation of information will be assessed through clinical case studies and a clinical paper.

Personal and Professional growth is assessed through the two page form used in the clinical setting to evaluate psychomotor, affective, and cognitive skills within the professional setting.
Rotational Objectives: 40 % of Clinical Grade
Upon completion of this course, students will have:

1. Completed two case studies
2. Completed the clinical paper
3. Demonstrate introductory skills in treatment, simulation, and dosimetry by meeting competency requirements
4. Have completed specific competencies as follows:
   a. 10 treatment unit competencies
   b. 10 simulation competencies
   c. 1 beam modification competency
   d. At least 1 brachytherapy competency out of the requirement of 2
   e. All dosimetry competencies

Submitted all required paperwork, properly signed and dated, to the clinical supervisor before the last scheduled day of clinic. The clinical coordinator will pick up the paperwork. The course evaluation must be turned in to the clinical coordinator by the Monday before the last day of clinic. If due dates are not met, the student may receive an incomplete for the course.

NOTE: If competencies are not done during the rotations provided, the student is still expected to meet the above rotational objectives regarding competencies by the end of the semester.

At the completion of the semester, the student will be able to demonstrate appropriate:

A. Treatment: Fall Competency
1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable”.
2. Perform quality control/quality assurance in the treatment arena
   a. Set up machine and patient for treatment
   b. Monitor the patient and the machine while performing a treatment
   c. Perform treatment and prescription verification using port films and other appropriate mechanisms
   d. Show consideration of dose to critical structures
3. Practice accurate record keeping
4. Demonstrate a knowledge of patient assessment, care, management, and education
5. Deliver, under the direct supervision of a radiation therapist, treatments for at least 10 types of set-ups from the prescribed competency list.

B. Simulation: Fall Competency
1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable”.
2. Equipment operation and quality control/quality assurance
3. Patient and machine monitoring
4. Patient positioning and immobilization
5. Imaging procedures
6. Image processing
7. Record keeping
8. Patient assessment, care, management, and education
9. Under the direct supervision of a radiation therapist, perform the simulation for at least 10 types of set-ups from the prescribed competency list.

C. Dosimetry: Fall Competency
1. Hand calculations for two simple open and two simple blocked fields using the treatment parameters outlined for SSD and SAD treatment techniques.
2. Understanding of written orders pertaining to the dose calculation to be performed.
3. Record keeping of all mathematical parameters pertaining to the calculation.
4. Dosimetry data tables necessary for completion of hand calculations.
5. Formulas are needed for specific calculations.
6. Equations necessary for the calculations.
7. Calculation of the designated units (time/MU)
8. Record keeping of the information in a patient chart or verbally demonstrate understanding of the process.
9. Calculation of field gaps.
10. Electron field calculations.
11. Calculations for wedged fields.
12. Production of an acceptable treatment plan by computer for a single field, parallel opposed fields, and a four-field box.
13. Production of an acceptable treatment plan by computer for a three field portal arrangement and a wedged field arrangement
14. Selection of contours for planning.
15. Identification of the tumor and target volumes.
16. Preparation of the computer for data entry.
17. Contouring for treatment planning.
18. Selection and entering of the field parameters (energy/field size/etc).
19. Selection of the appropriate treatment technique (SSD/SAD)
20. Evaluation of the isodose distribution.

D. Beam Modification: photon, electron blocks; digitize an MLC, build bolus
1. Cut a set of photon blocks to the satisfaction of the clinical instructor.
2. Digitize a photon field using MLC
3. Cut a set of electron blocks to the satisfaction of the clinical instructor.
4. Construct a custom designed bolus.

E. Brachytherapy: two required for program
1. Discuss the role of brachytherapy in a radiation oncology department.
2. Describe the types of brachytherapy procedures performed in the clinical affiliate.
3. Discuss radiation protection/safety policies and procedures pertinent to brachytherapy.
4. Observe and assist with at least one brachytherapy procedure in the clinical affiliate.
Personal and Professional Growth Assessment: 30% of Clinical Grade:

The student will demonstrate the following:

1. Cognitive skills by demonstrating clinical knowledge, thinking, acquiring, evaluating and synthesizing information.
2. Psychomotor skills through physical and perceptual activities and skills.
3. Affective skills by the demonstration of feeling, preferences, and values appropriate to the clinical setting.

Clinical Paper Criteria: 20 % of grade

Clinical paper is due: Thursday Nov. 18, 2004 by 6:30 pm.
Paper should be about a clinical case or procedure that is of interest to you. The topic must different from your previous papers. Example: if you have already done prostate, you cannot do prostate again.

1. No excuse will be taken for late papers. A late paper will not be accepted and a 0 will be given for the grade. You will submit your paper electronically. Be sure to notify me that you have submitted your paper in case I do not receive it. It would be best not to wait to the last minute in case of problems.

2. AMA style of writing using the ASRT Guide for Authors found on the ASRT website http://www.asrt.org.

3. The body of the paper must be a minimum of 10 pages in length, typed, double-spaced, 12 pt font. The body does not include title page, abstract, or reference page.

4. Minimum of 10 references done in AMA format; oral and written communication cannot be used in reference list although they are acceptable in the text when in proper reference format. The references may come from websites, journals, articles, or books, but all references must be peer-reviewed and contain multiple references that show validity. Websites must be show validity by being from a reputable site that shows peer-review of information, current updates, and use of experts in the field.

5. Paper will contain a title page, abstract of not more than 75 words, Introduction to include literature, review, Methods, Results/Discussion/Conclusion, and Reference list.

6. Grade will be based on content, format, grammar, and spelling.

What to include in the paper:
Failure to include the information required below will diminish your grade. The paper should include but is not limited to the following:

1. Type of cancer, stage and grade, histology, name of primary site, and routes of spread.
2. Information concerning previous and ongoing lab work, imaging, surgery, need for pre-post chemotherapy or surgery, etc.
3. Patient history: age, presenting system, medical history, treatments to date
4. Method of communication based on age-related information.

5. Procedure
   a. Simulation: method, patient position, immobilization, contrast (why/why not), how administered, communication used.
   b. Treatment planning: prescription, method of treatment fields decide upon and why, possible need for brachytherapy as a boost or the need for surgery post irradiation, doses to include daily and cumulative, boosts, use of wedges, etc.
   c. Treatment: Which accelerator if facility has multiple machines, what was done the first day in regards to port films, set up, and any problems that occurred. Discuss how those problems were solved. Include communication used.
   d. Follow-up: what type of follow-up is planned after the therapy is compete

6. Doing a treatment that includes brachytherapy, include a discussion of the radioactive isotopes used, storage, transportation issues, radiation safety, and what to do when an incidence occurs (such as overdose, lost sources, early removal, etc.)

7. Discuss scheduling and billing for each segment of the procedures.
8. Discuss the need (if any) of social services, nursing care in regards to skin, nutrition, pain control, or hospice.

**Case Study Criteria: 10 % of grade (5% each)**

Due Dates: First case study: **Monday, Oct. 4, 2004, at 4:00 pm.**
Second case study: **Thursday, Nov. 4, 2004, at 4:00 pm.**

1. The case studies may be done on any case the students finds of interest in clinic.
2. The case study should be at least two pages but not more than 4 pages long.
3. **No excuses will be taken for late case studies.** A late case study will not be accepted and a grade of 0 will be given. You should submit your case studies electronically.
4. Follow the [Case Study Format](#) provided on WebCT under RTT 351. Provide all requested information.
5. In some instances, information may not be available or pertinent. If this is so, note it in the case study.
6. Provide a list of all references to include information gathered through personal communication, patient charts, staff members, or any additional information found via the Internet, journals, articles, etc.
University of Alabama at Birmingham  
Radiation Therapy Program  

Case Study Format

Objectives: Upon completion of the case study, the student will be able to:

1. Reference information from a patient’s chart, such as pathology and lab reports, progress notes, and history and physical information.
2. Perceive on a deeper level the complexity of the overall treatment plan as that plan pertains to diagnosis, staging, combined modalities, and follow-up of the patient during and after a course of radiation.
3. Communicate with the primary oncologist about a patient’s care.
4. Understand the need for supportive care of the patient and family before, during, and after a course of radiation therapy.
5. Discuss the route of spread of the cancer as that disease pertains to specific patients.
6. Explain the presence or absence of genetic predisposition for the specific patient in the case study.

Evaluation:
- A = 92-100
- B = 84-91
- C = 75-83
- D = 67-74
- F = 0-66

2. No excuses will be taken for late case studies.

3. If your case study is late, it will not be accepted and a grade of 0 given.

Due Dates: First case study: **Monday, Oct. 4, 2004, at 4:00 pm.**  
Second case study: **Thursday, Nov. 4, 2004, at 4:00 pm.**

5. All requested information must be included in the case study. Points will be deducted if the format is not followed.

Instructions/Format:

Your case study should be on a patient, which you select from the patients being treated at the facility to which you are assigned. You are required to do two separate case studies on different patients with different types of cancer. You are to research the patient’s chart, discuss the case with the patient’s primary oncologist, interview the simulation and the treatment therapists involved with the patient’s treatment, as well as the nurse and any other individuals involved with the patients care. It is also appropriate, with permission of course, to interview the patient. All this information is to be included in your case study.
Each case study should be a minimum of two pages (but may be more if needed), typewritten, with 12-point font. Please include your sources of information. These sources do not need to be in AMA format.

Information to include in the case study:

1. Anatomic Site
2. Histology
3. Gender, Age
4. Stage/Grade
5. Is the disease primary or metastatic? If it is metastatic, what is the primary site?
6. Presenting symptoms
7. Pertinent medical history (predisposing genetics, risk factors, etc.)
8. Treatment to date to include who, what, when, and where information. Has the patient had pre-op surgery, chemotherapy, or previous Radiation Therapy?
9. Supportive Care (dental, social worker, hospice, etc)
10. Radiotherapy Treatment Plan:
   a. Palliative, curative
   b. Prescription: total dose, fractionation, daily dose, etc.
   c. Boost (if planned)
   d. Modality
   e. Photon energy and/or electron energy
   f. Brachytherapy (if so, what kind and when)
12. Patient position on treatment couch: describe any immobilization used and why
13. Technique/beam/couch arrangement: describe how the patient is treated, any difficulties or changes with set-up
14. Critical organ(s) in field
15. Route of spread: do any or all apply?
   a. Hematogenous
   b. Lymphatic
   c. Draining Nodes
   d. Peritoneal seeding
   e. Direct Invasion
16. Most common site of metastasis for the patient’s cancer
17. Skin/nutritional instructions
18. Prognosis
19. References: may use any necessary research tools
Objectives, Evaluation, and Instructions for Students and Clinical Instructors/Supervisors

Objectives:
1. Provide feedback at mid-term and at the end of the semester in the training of competent and compassionate caregivers.
2. Assess the student's personal and professional growth while in the clinical setting.
3. Guide them toward the improvement of their technical, professional, and communication skills.

Evaluation: The points in each section add up to 100 points. Each box is assigned a certain number of points. The highest number of points = 6, and the lowest number of points= 0.

1. Section One equals 60 points
   Always = 6 points
   Usually = 5 points
   Occasionally = 1 points
   Never = 0 points

2. Section Two equals 20 points
   Always = 5 points
   Usually = 4 points
   Occasionally = 1 points
   Never = 0 points

3. Section Three equals 20 points.
   Always = 5 points
   Usually = 4 points
   Occasionally = 1 points
   Never = 0 points

Instructions
1. This form will be used for all clinical rotations EXCEPT the first one.
2. Completed forms will be submitted to the clinical coordinator at mid-term and at the end of the semester (see below for details).
3. When appropriate, a plan will be developed to help the student improve in the areas of weakness during subsequent rotations.

First day of rotation:
1. One form per area of rotation will be completed.
2. The student will review the form with the clinical instructor on the first day of the rotation site/machine or area to identify and clarify expectations during the rotation period. Behaviors beyond those stated that are expected by the clinical instructor should be explained to the student at this time.
3. **The clinical supervisor and the student** both sign the **signature page** to indicate that the review process has taken place.

4. **The clinical supervisor** keeps the signature page in the student’s folder until the end of the semester.

5. **Mid-term evaluations:**

6. **The student** provides the clinical instructor(s) working with them with a copy of the Personal and Professional Growth Form.

7. **The clinical instructor(s)** is/are to submit a copy of this form along with the mid-term evaluation form to the clinical supervisor for the site assigned to the student.

8. **The clinical coordinator** will go over this mid-term evaluation form with the student. This review of their strengths and weakness will allow them to correct any negative behaviors before the end of the semester.

**One week** before the end of the rotation:

1. **The student** is to give the clinical instructor(s) who is/are most familiar with their work a fresh copy of this form. The student is to sign the form after a review of the evaluation has taken place. Signature does not mean agreement.

2. **The clinical instructor(s)** who has/have worked with the student will evaluate the student's performance. The clinical instructor(s) is/are expected to go over this form with the student and explain the rationale evaluation given to the student.

3. **The clinical supervisor** reviews the Personal and Professional Growth Form and then signs the second part of the signature page, indicating that the student has been provided with the necessary feedback.

4. **The clinical coordinator** will use the Personal and Professional Growth Form as part of the overall clinical grade for the student.
Objectives and Instructions:

1. The first set of signatures below indicates that on the first day of the rotation, the clinical supervisor or the clinical instructor working with the student has discussed what is expected of the student during their rotation at the facility and the student understands those expectations.

   The Clinical Instructor/Supervisor has discussed personal and professional growth. The student understands that an assessment will be done to determine the level of growth in these areas.

2. The second set of signatures below indicates that the student has been evaluated at the end of the rotation and understands the reasons for the evaluations given.

   The signature of the student does not indicate agreement with the evaluations, only that they have been explained. If the student wishes to challenge the validity or fairness of the evaluations, a meeting may be set up with the only the student, the instructor/supervisor doing the evaluation, the clinical coordinator and/or the Program Director. No one else may attend. This is a closed meeting and is considered confidential.

3. * In order for the form to be valid, **the form cannot be backdated by either students or staff**. If the review with the student did not take place on the first day of rotation, but instead took place on the fifth day of rotation, then that date must be used. The important thing is for the review of clinical and performance expectations to take place at the beginning of the rotation.

SIGNATURES AT **START** OF ROTATION:

Student Signature: _________________________________

Clinical Instructor/Supervisor Signature: _______________ Date:

SIGNATURES AT **END** OF ROTATION:

Student Signature: _________________________________

Clinical Supervisor Signature: ______________________ Date:
University of Alabama at Birmingham  
Radiation Therapy Program  
Personal and Professional Growth Assessment Form

**Area of Rotation (21CD, CT Sim, etc.)**  

**Student:** _____________________________________  **Date:** ______________________________

Clinical Instructions: Check the box in each category that **best** represents the student's performance. If you feel the student falls between two different categories, check both and the clinical coordinator will average them out. Extra comments can be placed on back of form.

### Section 1: Clinical Performance = 60 points

<table>
<thead>
<tr>
<th>Category</th>
<th>Never displays knowledge of fundamental principles; cannot answer basic questions</th>
<th>Usually can answer questions related to knowledge of fundamental principles</th>
<th>Occasionally can answer questions related to knowledge of fundamental principles; has limited knowledge</th>
<th>Always able to answer questions related to knowledge of fundamental principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Accuracy</td>
<td>Always accurate: little help needed</td>
<td>Usually accurate, few mistakes; quick to learn</td>
<td>Occasionally accurate, often needs correction</td>
<td>Never accurate, needs constant correction; poor skills despite repetition</td>
</tr>
<tr>
<td>Consistency/Efficiency of Daily Technical Performance</td>
<td>Usually dependable; maintains a fairly stable performance of tasks each day in clinic</td>
<td>Never consistent from one day to the next in the performance of tasks; unreliable as a member of the team</td>
<td>Occasionally difficult to depend upon in the performance of daily clinical tasks; not always consistent/efficient</td>
<td>Always dependable; maintains a high consistency/efficiency in the performance of daily clinical tasks</td>
</tr>
<tr>
<td>Initiative</td>
<td>Always takes advantage of learning opportunities, self starter</td>
<td>Never shows initiative, neglects work or wanders: needs frequent reminders</td>
<td>Usually shows initiative, few reminders</td>
<td>Occasionally shows initiative, not a self-starter</td>
</tr>
<tr>
<td>Organization Skills</td>
<td>Never prepared for procedures and events; must be prompted for paperwork</td>
<td>Occasionally prepared for procedures and events; rarely has paperwork ready</td>
<td>Usually prepared for procedures and events; needs little prompting about paperwork</td>
<td>Always prepared for procedures and events; has paperwork up-to-date and prepared without prompting</td>
</tr>
<tr>
<td>Work Ethics</td>
<td>Always enthusiastic: considerate and helpful: follows instructions carefully and accurately</td>
<td>Occasionally lazy: only does what must be done, sometimes resistant to following directions</td>
<td>Never a team player, resents authority, complains about duties; resistant to following directions</td>
<td>Usually enthusiastic, rarely resistant to following directions</td>
</tr>
<tr>
<td>Focus</td>
<td>Always exhibits an unimpaired awareness of surroundings; focuses on the task at hand</td>
<td>Never focused; does not pay attention to surroundings; forgetful of details; doesn’t know what is going on around them</td>
<td>Occasionally not focused on surroundings; must be reminded of task at hand; very absentminded</td>
<td>Usually exhibits an unimpaired awareness of surroundings; rarely absentminded; usually focused</td>
</tr>
<tr>
<td>Use and Care of Equipment</td>
<td>Occasionally misuses equipment and facilities</td>
<td>Always careful with equipment and facilities</td>
<td>Usually is careful with equipment and facilities</td>
<td>Never is careful with equipment or facilities, abusive and careless</td>
</tr>
<tr>
<td>Patient/Peer Communication</td>
<td>Always relays information appropriately and accurately; respects patient confidentiality</td>
<td>Never communicates necessary information, does not communicate with patients, or is inappropriate in front of patients</td>
<td>Occasionally transmits pertinent information when prompted; has trouble speaking to or is occasionally inappropriate in front of patients</td>
<td>Usually transmits pertinent information with little or no prompting; quickly learns when corrected</td>
</tr>
<tr>
<td>Problem Solving/Critical Thinking</td>
<td>Always shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
<td>Usually shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
<td>Never shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
<td>Occasionally shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
</tr>
</tbody>
</table>
## Personal and Professional Growth Assessment Form (Page 2)

### Section 2: Personal Characteristics = 20 points

<table>
<thead>
<tr>
<th>Personal Characteristics</th>
<th>Occasionally a team player, often difficult to work with; may need counseling</th>
<th>Always works well with others; good team player</th>
<th>Never works well with others; very difficult to work with; needs improvement in people skills; needs counseling</th>
<th>Usually a good team player; works well with others without much trouble</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-operative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compassionate Attitude Toward Patient/Peer</td>
<td>Never considerate, treats patient/peer unprofessionally; must be counseled repeatedly</td>
<td>Occasionally polite; often inconsiderate to others; behaves in an unprofessional manner or shows lack of compassion and empathy; may need counseling</td>
<td>Always polite; shows appropriate concern and empathy; shows compassion for patients and peers</td>
<td>Usually polite; shows some empathy; rarely needs to be approached about unprofessional attitude or lack of compassion</td>
</tr>
<tr>
<td>Respectful</td>
<td>Always treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Usually treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Occasionally treats individuals equally regardless of race, creed, culture or lifestyle; may need counseling</td>
<td>Never treats individuals equally regardless of race, creed, culture or lifestyle; needs counseling</td>
</tr>
<tr>
<td>Accepts Constructive Criticism</td>
<td>Always utilizes criticism constructively without hostility</td>
<td>Never accepts constructive criticism; is defensive and demonstrates hostility; needs counseling</td>
<td>Occasionally accepts constructive criticism grudgingly, some hostility and argument; may need counseling</td>
<td>Usually accepts constructive criticism without becoming defensive or argumentative</td>
</tr>
</tbody>
</table>

### Section 3: Policies and Procedures = 20 points

<table>
<thead>
<tr>
<th>Policies and Procedures</th>
<th>Personal Appearance</th>
<th>Punctuality</th>
<th>Attendance</th>
<th>Radiation Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Always looks very professional</td>
<td>Always on time; 0 tardies</td>
<td>Always in clinic on scheduled days; 0 days missed</td>
<td>Always wears film badge and ring as per policy</td>
</tr>
<tr>
<td></td>
<td>Occasionally un Kemp t and untidy; sometimes needs reminders about perfume or hygiene</td>
<td>Usually on time; 1-2 tardies; calls when late Dates</td>
<td>Occasionally absent; sometimes forgets to call when out; 2 unexcused days missed Dates</td>
<td>Occasionally wears film badge and ring as per policy; Must be reprimanded. Needs improvement Written Warning to be given. Date</td>
</tr>
<tr>
<td></td>
<td>Usually looks professional, usually neat and clean: good personal hygiene</td>
<td>Usually in clinic on scheduled days; usually calls when out; 1 unexcused day missed Date</td>
<td>Always calling in or routinely absent; more than 2 unexcused days missed; needs counseling Dates</td>
<td>Never wears film badge and ring as per policy; consistently reports to work without badge or ring and is sent home; possible probation or dismissal from program Date</td>
</tr>
<tr>
<td></td>
<td>Note: 2 tardies=l absence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Clinical Instructor/Supervisor reviewed evaluation with student: Yes ___ No _____
Clinical Instructor Signature: ___________________________ Date: _______________
Student Signature: ___________________________ Date: _______________
Place additional comments on back of form.
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulation Competency
Objectives, Evaluation, and Instructions

Overall Objectives:
At the completion of the Simulation rotation, the student should be able to:

1. Demonstrate progress in each aspect of simulation, including patient communication and assessment, simulation room set up, use/nonuse of contrast, and understanding of required documentation of simulation information in the patient’s chart.
2. Perform, **under the direct supervision of a radiation therapist**, simulations for at least ten (10) types of set-ups from the prescribed competency list.

Specific Objectives:

1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable”.
2. Explain procedure to patient
3. Prepare supplies as needed for simulation
4. Monitor equipment and patient during procedure
5. Demonstrate patient care as situation required, including monitoring for possible contrast reactions
6. Position and immobilize patient using available tools and instrumentation as required
7. Perform CT scan for region of interest
8. Participate in determining treatment fields (on field or digitally)
9. Review and discuss CT scan and treatment plan with appropriate personnel
10. Utilize preset protocols or adjust imaging parameters (i.e., slice level, FOV) to obtain Image
11. Mark isocenter and transmit network images to workstation
12. Document the simulation parameters or discuss how the simulation should be documented in the treatment chart.
13. Document or explain how that procedure should be billed.

Evaluation:

1. The student will perform a selected competency based on the simulation procedures followed at his or her assigned clinical site.
2. The student will be graded on satisfactory performance, unsatisfactory performance (some mistakes are made, student needs improvement in some areas), or failure to demonstrate competency (student performs poorly, consistently makes mistakes during competency).
3. The assigned grading criteria are as follows:
   a. 3 = Satisfactory
   b. 2 = Unsatisfactory
   c. 1 = Failure

Instructions:
Competency Requirements: The student will perform simulation procedures on a CT Simulator demonstrating the skills identified in the section on Specific Objectives. For each skill area, the student must participate with appropriate personnel at one or more of the following levels of responsibility: perform, discuss, review, or observe.

1. The student must perform a minimum of 10 simulation competencies by the end of the semester. Failure to do the required minimum will result in a loss of points on the overall clinical grade.

2. The clinical instructor should complete the form at the end of each simulation competency.

3. The clinical instructor and the student will sign the form. The clinical instructor should explain the reason for the evaluation given, what could be improved upon, and what was done well.

4. A Simulation Competency Evaluation Form should be submitted for each competency performed.

5. If the student does not have the appropriate form, the Clinical Instructor can declare the competency invalid and the student will have to repeat the competency at a later date.

6. A student may not declare the competency evaluation invalid just because the student did not do well on the competency. The student may repeat the competency at another time, but the first competency stands as valid and should be included in the student’s paperwork.

7. If the student is not allowed to perform certain tasks, such as filling in the chart or billing, the student must verbally demonstrate knowledge of the procedure.

8. The student is not required to know the ICD code, but must demonstrate understanding of simple, intermediate, or complex categories, when to bill for immobilization device construction, and bolus.

9. The Competency form must be filled out completely in order to be turned in. It is important to check “initial” indicating the first time the competency is done or “repeat” indicating the student is repeating a competency.

10. The paperwork will not be accepted without all signatures and dates.
# Radiation Therapy Program
## Conventional Simulation Competency Form

**Student Name:** __________ __________________

**Clinical Site:** ______________

**Date** __________ Procedure: ______________

**Category:** _______________

**Competency Category:** Initial_______ Repeat ______ Additional _________

3= Satisfactory 2= Unsatisfactory 1= Failure 0= NA

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate radiation safety and environmental protection by practicing ALARA</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>2. Explains procedure to patient and then obtains signed consent</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>3. Communicates with patient throughout the simulation procedure</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>4. Positions patient on simulator table in proper orientation to the simulator using positioning aids and immobilization devices.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>5. With supervision, assist the physician/therapist in localizing and determining optimum fields to cover tumor volume.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>6. Set up a preliminary treatment field, and with assistance from the therapist, take a radiograph.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>7. Draw treatment field and sidelight marks correctly on patient's skin.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>8. Label radiographs correctly for documentation of simulation.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>9. Take appropriate photographs for documentation of set-up</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>10. Record treatment information correctly in patient's treatment chart, or verbally demonstrate understanding of the process.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>11. Records or verbally demonstrates understanding of how to document information correctly for dosimetry.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>12. Performs correct billing or verbally demonstrates understanding of the billing process (simple, intermediate, complex) dealing with the simulation, immobilization construction</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>13. Takes appropriate photographs for documentation.</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
</tbody>
</table>

**Score:**

The clinical instructor went over evaluation with student: Yes ________ No______

**Student Signature:** ______________________________________________________________

**Clinical Instructor Signature:** _________________________________ **Date:** ______________
Objectives, Evaluation, and Instructions

Objectives:
The student is expected to be able to perform the following equipment operation and QA by demonstrating the skills identified in the objectives below. The student must participate with appropriate personnel at one or more of the following levels of responsibility: Perform, discuss, review, or observe.

At the end of the simulation rotation, the student should be to do the following:

1. Turn on the simulator for morning warm-up
2. Check accuracy and performance of lasers, ODI, field sizes, fluoroscopy
3. Demonstrate knowledge of the simulator unit components and equipment
4. Locate all emergency OFF buttons for the following:
   a. Couch
   b. Gantry
   c. Wall
5. Check the function of table, gantry and collimator controls
6. Perform quality assurance mechanical checks prescribed by departmental protocol
7. Perform quality assurance tests on imaging devices as prescribed by departmental protocol

Evaluation:

1. This is a PASS/FAIL competency. The student must pass all the tasks to pass the competency.
2. If the student fails, the student must repeat the competency within the same week.
3. The scores for the first and second attempt will be averaged as part of the overall Clinical grade.

Instructions: This form is not valid unless competed the same day as the competency.

1. The student is expected to observe one warm-up before attempting to do a competency
2. The student must competently perform the warm-up procedures used at the assigned clinical site(s) to the satisfaction of the clinical instructor.
3. The student must have documentation of a warm-up competency for each week of the rotation except for the first week, in which the student is expected to observe the procedure.
4. The student is expected to perform a warm-up and testing QA procedure for each rotation through the conventional simulator EVEN if the site has both a conventional and a CT Simulator.
5. The clinical instructor will fill out the form the day the student performs the warm-up.
6. If the student misses a weekly competency, then the student may be allowed to make this up sometime during following week.
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulator Quality Assurance (QA) Competency Form

Student: _____________________________ Clinical Site: __________________

Date: ____________________ PASS (P) FAIL (F)

Note: The student must perform all the tasks accurately in order to pass the QA Competency. The student has demonstrated competency in the warm-up and testing of a conventional simulator by doing the following procedures to the satisfaction of the clinical instructor.

1. Centers the table and sets at correct height to begin warm-up ________
2. Checks accuracy of table parameters using optical distance indicator (ODI) _______
3. Checks the ODI readout for accuracy using the manual distance indicator (or facility's tool) ________________
4. Checks table parameters for accuracy by doing the following:
   a. Table longitudinal
   b. Table lateral
   c. Table rotation
   d. Table vertical
5. Checks collimator rotation_______
6. Checks field size alignment_______
7. Checks the accuracy of the lasers _______
8. Performs fluoroscopy check _______
9. Completes warm-up exposures using exposure technique for that facility
10. Checks emergency ON/OFF switches on the following: ____________________
    a. Wall
    b. Table
    c. Console
11. Performs precision interlock check on equipment and on door ________

PASS _______ FAIL ________ If the student fails, the student must repeat the competency within the same week.

The clinical instructor explained the evaluation to the student: Yes____ No _____

Student Signature _____________________________________ Date: __________________
Clinical Instructor Signature ___________________________
University of Alabama at Birmingham  
Radiation Therapy Program  
CT Simulation Competency  
Objectives, Evaluation, and Instructions

**Overall Objectives:**
At the completion of the Simulation rotation, the student should be able to:

1. Demonstrate progress in each aspect of simulation, including patient communication and assessment, simulation room set up, use/nonuse of contrast, and understanding of required documentation of simulation information in the patient’s chart.
2. Perform, **under the direct supervision of a radiation therapist**, simulations for at least ten (10) types of set-ups from the prescribed competency list.

**Specific Objectives:**

1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable".
2. Explain procedure to patient
3. Prepare supplies as needed for simulation
4. Monitor equipment and patient during procedure
5. Demonstrate patient care as situation required, including monitoring for possible contrast reactions
6. Position and immobilize patient using available tools and instrumentation as required
7. Perform CT scan for region of interest
8. Participate in determining treatment fields (on field or digitally)
9. Review and discuss CT scan and treatment plan with appropriate personnel
10. Utilize preset protocols or adjust imaging parameters (i.e., slice level, FOV) to obtain image
11. Mark isocenter and transmit network images to workstation
12. Document the simulation parameters or discuss how the simulation should be documented in the treatment chart.
13. Document or explain how that procedure should be billed.

**Evaluation:**

1. The student will perform a selected competency based on the simulation procedures followed at his or her assigned clinical site.
2. The student will be graded on satisfactory performance, unsatisfactory performance (some mistakes are made, student needs improvement in some areas), or failure to demonstrate competency (student performs poorly, consistently makes mistakes during competency).
3. The assigned grading criteria are as follows:
   a. 3 = Satisfactory
   b. 2 = Unsatisfactory performance
   c. 1 = Failure
   d. 0 = N/A
CT Simulation Competency Objectives, Evaluation, and Instructions (Cont)

Instructions:

Competency Requirements: The student will perform simulation procedures on a CT Simulator demonstrating the skills identified in the section on Specific Objectives. For each skill area, the student must participate with appropriate personnel at one or more of the following levels of responsibility: perform, discuss, review, or observe.

1. The student must perform a minimum of 10 simulation competencies by the end of the semester. Failure to do the required minimum will result in a loss of points on the overall clinical grade.

2. The clinical instructor should complete the form at the end of each simulation competency.

3. The clinical instructor and the student will sign the form. The clinical instructor should explain the reason for the evaluation given, what could be improved upon, and what was done well.

4. A Simulation Competency Evaluation Form should be submitted for each competency performed.

5. If the student does not have the appropriate form, the Clinical Instructor can declare the competency invalid and the student will have to repeat the competency at a later date.

6. A student may not declare the competency evaluation invalid just because the student did not do well on the competency. The student may repeat the competency at another time, but the first competency stands as valid and should be included in the student’s paperwork.

7. If the student is not allowed to perform certain tasks, such as filling in the chart or billing, the student must verbally demonstrate knowledge of the procedure.

8. The student is not required to know the ICD code, but must demonstrate understanding of simple, intermediate, or complex categories, when to bill for immobilization device construction, and bolus.

9. The Competency form must be filled out completely in order to be turned in. It is important to check “initial” indicating the first time the competency is done or “repeat” indicating the student is repeating a competency.

10. The paperwork will not be accepted without all signatures and dates.
Student Name: ___________________ Clinical Site: ______________ Date: ____________

Procedure: _____________________________ Category:

Competency Category: Initial _____ Repeat _____ Additional_______

3= Satisfactory 2= Unsatisfactory 1= Failure 0= NA

1. Demonstrate radiation safety and environmental protection by practicing ALARA (3) (2) (1) (0)

2. Explains procedure to patient and then obtains signed consent (3) (2) (1) (0)

3. Positions patient on simulator table in proper orientation to the simulator using appropriate positioning aids. (3) (2) (1) (0)

4. Constructs, with assistance, necessary immobilization devices. (3) (2) (1) (0)

5. Draws preliminary sidelight marks correctly on patient's skin. (3) (2) (1) (0)

6. Initiates, with supervision, scout films to verify alignment (3) (2) (1) (0)

7. Programs the console, with supervision, to initiate scan procedure according to departmental protocol (3) (2) (1) (0)

8. Communicates with patient throughout simulation procedure (3) (2) (1) (0)

9. Transmits network images to workstation (3) (2) (1) (0)

10. With supervision, uses virtual simulation to place isocenter. (3) (2) (1) (0)

11. Draws the isocenter and positioning marks correctly on patient's skin. (3) (2) (1) (0)

12. Records or verbally demonstrates understanding of how to document simulation information correctly in patient's treatment chart. (3) (2) (1) (0)

13. Records or verbally demonstrates understanding of how to document information correctly for dosimetry. (3) (2) (1) (0)

14. Performs correct billing or verbally demonstrates understanding of the billing process (simple, intermediate, complex) (3) (2) (1) (0)

15. Takes appropriate photographs for documentation dealing with the simulation, immobilization construction (3) (2) (1) (0)
The clinical instructor went over evaluation with student: Yes ___ No ___

Student Signature: ___________________________ Date __________

Clinical Instructor Signature: _______________________________
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulator Quality Assurance (QA) Competency
Objectives, Evaluation, and Instructions

Objectives:
The student is expected to be able to perform the following equipment operation and QA by
demonstrating the skills identified in the objectives below. The student must participate with
appropriate personnel at one or more of the following levels of responsibility: Perform, discuss,
review, or observe.

At the end of the simulation rotation, the student should be to do the following:

1. Turn on the CT simulator for morning warm-up
2. Demonstrate knowledge of the CT simulator components and equipment
3. Check the function of the emergency OFF buttons for the following:
   a. Couch
   b. Gantry
   c. Wall
4. Check accuracy of lasers
5. Perform quality assurance mechanical checks prescribed by departmental protocol
6. Perform quality assurance tests on imaging devices as prescribed by departmental
   protocol through the use of phantom scans
7. Document the data acquired through the warm-up procedure in the appropriate logs
8. Explain what to do when confronted with a warm-up demonstrating parameters outside
   of normal limits.

Evaluation:

1. This is a PASS/FAIL competency. The student must pass all the tasks to pass the
   competency.
2. If the student fails, the student must repeat the competency within the same
   week.
3. The scores for the first and second attempt will be averaged as part of the overall
   Clinical grade.

Instructions: This form is not valid unless competed the same day as the competency.

1. The student is expected to observe one warm-up before attempting to do a
   competency
2. The student must competently perform the warm-up procedures used at the assigned clinical
   site(s) to the satisfaction of the clinical instructor.
3. The student must have documentation of a warm-up competency for each week of the
   rotation except for the first week, in which the student is expected to observe the
   procedure.
4. The student is expected to perform a warm-up and testing QA procedure for each rotation
   through the conventional simulator even if the site has both a conventional and a CT
   Simulator.
5. The clinical instructor will fill out the form the day the student performs the warm-up. 6. If
   the student misses a weekly competency, then the student may be allowed to make this up
   sometime during following week.
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulator Quality Assurance (QA) Competency Form

Student: _____________________________ Clinical Site: __________________
Date: ____________________ PASS (P) FAIL (F)

Note: The student must perform all the tasks accurately in order to pass the QA Competency. The student has demonstrated competency in the warm-up and testing of a conventional simulator by doing the following procedures to the satisfaction of the clinical instructor.

1. Centers the table and sets at correct height to begin warm-up ______
2. Checks accuracy of table parameters using optical distance indicator (ODI) _______
3. Checks the ODI readout for accuracy using the manual distance indicator (or facility's tool) ______
4. Checks table parameters for accuracy by doing the following:
   a. Table longitudinal
   b. Table lateral
   c. Table rotation
   d. Table vertical
5. Checks collimator rotation_______
6. Checks field size alignment_______
7. Checks the accuracy of the lasers __
8. Performs fluoroscopy check _____
9. Completes warm-up exposures using exposure technique for that facility
10. Checks emergency ON/OFF switches on the following:
    a. Wall
    b. Table
    c. Console
11. Performs precision interlock check on equipment and on door ______

PASS ______ FAIL ________ If the student fails, the student must repeat the competency within the same week.

The clinical instructor explained the evaluation to the student: Yes____ No _____
Student Signature _____________________________________ Date: __________________
Clinical Instructor Signature _____________________________________________________
Objectives, Evaluation, and Instructions

Objectives:
At the completion of the Treatment rotation, students should be able to:

1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable".
2. Perform quality control/quality assurance in the treatment arena
3. Demonstrate proper equipment operation
4. Set up machine and patient for treatment
5. Monitor the patient and the machine while performing a treatment
6. Perform treatment and prescription verification using port films and other appropriate mechanisms
7. Show consideration of dose to critical structures
8. Practice accurate record keeping
9. Demonstrate a knowledge of patient assessment, care, management, and education
10. Deliver, under the direct supervision of a radiation therapist, treatments for at least 10 types of set-ups from the prescribed competency list.

Evaluation:
1. The student must perform a selected treatment competency based on the way the treatment procedures are done at his or her assigned clinical site.
2. The competency must be performed to the satisfaction of the clinical instructor.
3. If the student does poorly on the selected competency, the student may repeat the competency on another day. BOTH competencies must be turned in. The grades for the two will be averaged into the overall clinical grade.
4. If the student simply cannot do the competency, or is consistently making mistakes during the competency, the clinical instructor may stop the competency, take over the treatment of the patient, and fail the student on that competency. The student may not argue. It is the instructor’s call.
5. If the student is not allowed by the facility to physically do certain parts of the task, such as documenting the patient’s treatment in the patient’s chart or billing the patient for the treatment, then the student should VERBALLY demonstrate knowledge of how to do this.

The following scale is used to grade the competency:
3 = Satisfactory
2 = Unsatisfactory
1 = Failure
Instructions:

1. **The student** is responsible for providing the paperwork to grade the competency before the competency starts.
2. If the student does not have the paperwork for evaluation of the competency before the competency begins, **the instructor is not obligated** to do the competency until the paperwork is produced.
3. **The clinical instructor** must complete the evaluation of the competency **that day**.
University of Alabama at Birmingham  
Radiation Therapy Program  
Treatment Competency Evaluation Form

Student: ____________________  Clinical Site: ____________________  Date: ____________________

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Treatment Machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency Category: Initial ( ) Repeat ( )</td>
<td></td>
</tr>
</tbody>
</table>

3= Satisfactory  2= Unsatisfactory  1= Failure

**Pre-treatment**

1. Reviews chart prior to preparing room/patient  3  2  1
2. Prepares treatment room according to set-up instructions  3  2  1
3. Greets and assists correct patient to treatment room  3  2  1
4. Communicates with patient during set-up and/or explains any changes in treatment procedure, Patient Set-up  3  2  1

**Treatment**

5. Immobilizes patient  3  2  1
6. Positions patient  3  2  1
7. Sets treatment parameters  3  2  1
8. Positions treatment machine  3  2  1
9. Inserts correct block/Sets MLC  3  2  1
10. Uses correct treatment accessories  3  2  1
11. Verifies treatment field  3  2  1
12. Marks treatment field as needed  3  2  1
13. Checks to be sure everyone except patient is out of room before beaming on  3  2  1
14. Performs treatment set-up efficiently  3  2  1
15. Demonstrates knowledge of critical structures  3  2  1

**Treatment Console/Post Treatment**

16. Demonstrates knowledge of ALARA  3  2  1
17. Verifies dose prescription in chart  3  2  1
18. Sets prescribed dose  3  2  1
19. Activates unit to deliver prescribed dosage  3  2  1
20. Monitors patient and machine during treatment  3  2  1
21. Documents or verbally demonstrates understanding of how to document treatment in patient's chart  3  2  1
22. Performs/verbally demonstrates understanding of billing techniques: simple, intermediate, or complex; port films, addition of bolus; etc.  3  2  1

Student Signature: ______________________________________________________

Clinical Instructor Signature: _____________________________ Date: _______________

Comments on Back.
University of Alabama at Birmingham
Radiation Therapy Program
Treatment Quality Assurance/Quality Control (QA/QC) Competency
Objectives, Evaluation, and Instructions

Objectives:
The student is expected to be able to perform the following equipment operation and QA/QC by
demonstrating the skills identified in the objectives below. The student must participate with appropriate
personnel at one or more of the following levels of responsibility: Perform, discuss, review, or observe.

At the end of each treatment rotation, the student will be able to:

1. Warm-up treatment unit according to departmental protocol
2. Perform safety checks on treatment unit according to departmental protocol
3. Check dose rate to verify accuracy by using radiation measuring devices and standardized conditions
4. Check gantry rotation for accelerator
5. Verify accuracy of lasers and optical distance indicator (range finder)
6. Check alignment of field sizes
7. Check function of interlocks on treatment table, electron cones and door
8. Check collision safety system for proper operation
9. Check emergency OFF switches to assure proper operation
10. Document the data acquired through the warm-up procedure in the appropriate logs
11. State to whom it is necessary to report malfunctioning or unacceptable QA readings as prescribed by
    departmental protocol.

Evaluation:

1. This is a PASS/FAIL competency. The student must pass all the tasks to pass the competency.
2. If the student fails, the student must repeat the competency within the same week.
3. The scores for the first and second attempt will be averaged as part of the overall clinical grade.

Instructions: This form is not valid unless competed the same day as the competency.

1. The student is expected to observe one warm-up before attempting to do a competency
2. The student must competently perform the warm-up procedures used at the assigned clinical site(s) to the
   satisfaction of the clinical instructor.
3. The student must have documentation of a warm-up competency for each week of the rotation
   except for the first week, in which the student is expected to observe the procedure.
4. The student is expected to perform weekly warm-up and testing QA procedures for each rotation
   through Treatment
5. The clinical instructor will fill out the form the day the student performs the warm-up.
6. If the student misses a weekly competency, then the student may be allowed to make this up sometime
   during following week.
University of Alabama at Birmingham
Radiation Therapy Program
Treatment Quality Assurance/Quality Control (QA/QC) Competency Form

Student: ____________________________ Clinical Site: ________________ Date: __________

Note: The student must perform all the tasks accurately in order to pass the QA Competency.

The student has demonstrated competency in the warm-up and testing of a treatment machine by doing the following procedures to the satisfaction of the clinical instructor.

1. Warms up treatment unit according to departmental protocol ________
2. Perform safety checks on treatment unit according to departmental protocol __________
3. Checks dose rate to verify accuracy by using radiation measuring devices and standardized conditions ______
4. Checks function of gantry rotation and collimator rotation for accelerator ______
5. Verifies alignment of lasers ______
6. Checks function of interlocks on treatment table for proper operation ________
7. Checks function of interlocks on electron cones for proper operation __________
8. Checks collision safety system on gantry for proper operation _________
9. Checks function of interlocks on door for proper operation ________
10. Verifies accuracy of optical distance indicator ______
11. Checks alignment of field sizes ______
12. Checks emergency OFF switches to assure proper operation________
13. Documents the data acquired through the warm-up procedure in the appropriate logs ______
14. Explains what to do when confronted with a warm-up demonstrating parameters outside of normal limits.

PASS ____ FAIL ____ If the student fails, the student must repeat the competency within the same week.

The clinical instructor explained the evaluation to the student: Yes _______ No ______

Student Signature: ____________________________ Date: ____________

Clinical Instructor Signature: ____________________________
University of Alabama at Birmingham
Radiation Therapy Program
TBI Photon Treatment Competency

Student: _____________________________ Clinical Site: __________________

Date: ________________________________

Instructions: Total Body Irradiation (Photon) is a required competency by the ARRT.

Evaluation:
3 = Satisfactory Performance
2 = Unsatisfactory Performance
1 = Failure

Skills:
1. Explains/assists in the room set-up ______
2. Explains the rationale for the extended distance used for treatment ______
3. Explains the placement and purpose of the scatter shield________
4. Explains the rationale for blocking the lungs for the photon field ______
5. Sets the correct dose rate and other treatment parameters at the treatment console____
6. Assists with the port films ______
7. Observes the interpretation of the port films ______
8. Documents or explains how to document the treatment in the patient's chart. ______
9. Explains how to bill the patient for the treatment, port films, etc. ______
10. Explains what acute side effects to look for and how to cope with them when they occur ______

Clinical Instructor explained the evaluation with the student: Yes ______ No____

Student Signature: _________________________________ Date: _______________

Clinical Supervisor/Instructor Signature: ________________________________
Objectives, Evaluation, and Instructions:

Objectives
At the end the Radiation Therapy Program, the student will be or has been able to:

1. Familiar with the procedures for brachytherapy as practiced at their assigned clinical site(s).
2. Observe a minimum of two brachytherapy procedures at their assigned site(s).
3. Participate in those areas of the procedures in which the clinical facility allows the student and deems important for the student.
4. Discuss knowledgably about the areas of brachytherapy procedures in which the student is only allowed to observe rather than actively participate.

Evaluation:

1. The Radiation Therapy Program requires a minimum of two brachytherapy observations. It is not considered a true competency because the student is not allowed to do the entire procedure on his or her own.
2. The brachytherapy requirements are a combination of observation and participation. It is best but not required for the student to witness a variety of brachytherapy procedures with at least one attempt made to observe the loading of sources in a patient having a low dose rate procedure.
3. The participation of the student is graded on a PAS/FAIL basis. Areas of observation only are simply checked to indicate completion.

Instructions:

1. The assigned facility decides which areas of the brachytherapy procedure are for participation and which areas are for observation only.
2. The student will be graded on a PASS/FAIL basis for those areas he or she is expected to participate in.
3. The student will also be graded on a PASS/FAIL basis on his or her ability to answer questions from the clinical instructor, thus demonstrating understanding of the both the observed procedures and the procedures participated in.
4. If the student fails in either or both areas, the student will be allowed another chance, but both attempts will be used in the average of the overall clinical grade. One grade does not replace the other.
5. * The student must observe at least one full procedure before being allowed to participate in any brachytherapy procedure.
University of Alabama at Birmingham
Radiation Therapy Program
Brachytherapy Requirements Form

Student: _____________________  Clinical Site: _________________  Date: ____________

Procedure:_______________________  Requirement number: ( ) 1 ( ) 2 ( ) Additional

PASS = P  FAIL = F

1. The student participated competently in the selected areas of the brachytherapy procedure to the satisfaction of the clinical instructor and was able to answer /discuss knowledgably those questions asked by the clinical instructor as they pertained to the procedure. _______

2. During the observation of the brachytherapy procedures, the student was able to answer and to discuss knowledgably those questions asked by the clinical instructor as they pertained to the procedure. _______

Identified Areas of Difficulty:


Identified Areas of Strength:


The clinical instruction reviewed the evaluation with the student: Yes ____  No _____

Student's Signature ____________________________________________  Date: _______

Clinical Instructor Signature:________________________________________
University of Alabama at Birmingham
Radiation Therapy Program
Beam Modification Device Competency Form

Student: ___________________________ Clinical Site: __________________ Date: ____________

This competency is for: Photon Blocks ______ Electron Block ______ Custom Bolus: ______

Instructions: Form must be filled out on the day of competency to be valid. The student is required to construct a set of photon blocks, at least one electron block, and a custom bolus.

Evaluation: Place a "P" for pass, an "F" for fail, or "NA" for not applicable for those tasks the student is not performing.

In the construction of custom blocks or custom bolus, the student is able to:
1. Respond correctly to the questions below and cut a set of custom photon blocks to the satisfaction of the clinical instructor
   a. Describe the physical properties of cerrobend.
   b. Explain the purpose of custom blocks.
   c. Determine the necessary thickness of the different photon energies when doing the photon block competency.

2. Respond to the questions below and cut a custom electron block to the satisfaction of the clinical instructor.
   a. Describe the physical properties of cerrobend
   b. Compare the difference in thickness between photon and electron energies when doing the electron block competency

3. Using MLC, digitize a photon field to the satisfaction of the clinical instructor.

4. Respond correctly to the questions below and construct a custom bolus to the satisfaction of the clinical instructor.
   a. Explain the need for a bolus.
   b. Give two examples of treatments that might require a special bolus.
   c. Discuss how a custom bolus modifies the beam for both electron and photon treatments.

PASS: _______ FAIL: ____________ Comments on back:

Clinical Instructor explained the evaluation to the student: Yes _____ No ________

Student's Signature: __________________________ Date: ____________

Clinical Instructor's Signature: __________________________

Objectives, Evaluation, and Instructions

Objectives:

**Dosimetry Checklist Review:** (to be done first)
Objectives: Upon completion of this rotation, the student will be able to

a. Discuss routine dosimetry duties associated with radiation oncology patients and procedures
b. Explain the role of a dosimetrist in the radiation oncology department
c. Demonstrate methods of obtaining a contour
d. Identify and explain the components of the treatment planning computer

**Dosimetry Competency: to be done after the Dosimetry Review**

1. Objectives: At the completion of this rotation, the student will be able to demonstrate an understanding of dosimetry by correctly:
2. Interpreting written orders pertaining to the calculation to be performed
3. Creating computer-generated isodose plans for multiple fields involving wedged and weighted fields.
4. Performing back-up hand calculations.
5. Performing hand calculations on those treatments not requiring isodose curves.
6. Selecting correct dosimetry data tables necessary for completion of hand calculations.
7. Explaining which formulas are needed for specific calculations.
8. Selecting the equation necessary for the calculations.
9. Recording all mathematical parameters pertaining to the calculation.
10. Recording the information in a patient chart as appropriate.
11. Obtaining computer generated printout of treatment plan/calculations.

Evaluation:

Dosimetry Review Checklist is PASS/FAIL.
The Dosimetry Competency is graded according to the following:

3 =Satisfactory Performance
2 =Unsatisfactory Performance, needs improvement
1 =Failure
Objectives, Evaluation, and Instructions (cont)

Instructions:

1. The student will spend five weeks in the dosimetry area to practice basic and intermediate functions associated with treatment planning.

2. The Radiation Therapy Program requires more than the minimum asked for by the ARRT. The student is required by the Program to complete computer generated isodose plans and corresponding back-up hand calculations of the following:
   a. Single open field
   b. Weighted fields
   c. Parallel opposed fields
   d. Electron fields w/blocks
   e. Multifield technique (3 or more fields)
   f. Geometric Gap
   g. Wedged fields

3. The back-up calculations must be by hand.

4. If the assigned clinic site does not run isodose curves on certain planned treatments, then a hand calculation alone will be accepted.

5. Use the TIME/MONITOR UNIT HAND CALCULATION COMPETENCY for those calculations that do not accompany a computer plan or for those calculations that are to verify a computer plan.

6. Use a separate form for each treatment plan and attach the computer generated plan to the evaluation form.

7. The student’s hand calculation should be written neatly and, along with the Time/Monitor
8. Hand Calculation Competency, be submitted attached to the computer plan it applies to

9. The student must submit the completed competency checklists required by the ARRT as well as the competency forms to the Clinical Supervisor upon completion. As always, the student should make a copy of everything for his or her own personal records.

10. The dosimetry instructor as well as the student should sign the completed competencies.
Dosimetry Review Checklist: Date _____________________

Student: ________________________________ Clinical Site: __________________

Treatment Planning Process:
1. Identify components of treatment planning computer.
2. Explain the components of a dose prescription.
3. Describe the goal of a treatment plan.
4. Discuss the relevance of critical structures in the treatment planning process.

Contours:
1. Explain the importance of contours
2. Discuss how to take a contour when the CT simulator is down or the site uses a conventional simulator.

The Treatment Plan:
1. State the tolerance dose for the following organs:
   a. Spinal cord
   b. Kidney
   c. Rectum
   d. Bladder
   e. Lens of eye
2. Identify the following on a treatment plan:
   a. The tumor
   b. The isocenter
   c. The tumor volume
   d. The radiation beams
3. Evaluate the treatment plan in regards to:
   a. Hot or cold spots
   b. Overlap with previous fields
   c. Tumor coverage

Comments:

PASS  FAIL

Clinical Instructor explained the evaluation to the student: Yes___ No _____

Dosimetrist Signature: _____________________________ Date: ____________

Student Signature: _____________________________________________
University of Alabama at Birmingham
Radiation Therapy Program
Dosimetry Competency Forms

Time/Monitor Unit Hand Calculation Form

Student: _______________________ Clinical Site: ________________________ Date: _______

Competency category: ___________________________ Type of field: ____________________

Evaluation:

3 = Satisfactory Performance
2= Unsatisfactory Performance
1 = Failure

When performing a hand calculation, the student must be able to correctly:

1. Interpret written orders pertaining to the calculation to be done. 3 2 1
2. Write down all mathematical parameters pertaining to the calculation. (Field size, depth, etc.) 3 2 1
3. Select correct charts and/or graphs for the calculation 3 2 1
4. Select which formulas are needed for the calculation. 3 2 1
5. Set up the equation to do the calculation. 3 2 1
6. Calculate the designated units (time/MU). 3 2 1
7. Record the information in the patient's chart. 3 2 1

Score:

Clinical Instructor explained the evaluation to the student: Yes _____ No_____

Comments:

Dosimetrists Signature: __________________________________________________________

Student Signature: _____________________________ Date: ________________________
Computer Treatment Planning Competency

Student: _________________________ Clinical Site: __________________________

Competency category: __________ Type of field: __________ Date: ___________

Instructions: Each plan requires a separate competency sheet. A dosimetry plan should be submitted for each of the required treatment techniques. Perform a back-up calculation and attach it to this form.

Evaluation:

3 = Satisfactory Performance
2 = Unsatisfactory Performance; needs improvement
1 = Failure

When performing a computer plan, the student must be able to:

1. Interpret the written orders pertaining to the treatment plan to be performed
   3  2  1
2. Select the appropriate patient contour
   3  2  1
3. Identify the tumor volume and target volume
   3  2  1
4. Identify normal/critical structures
   3  2  1
5. Select appropriate field parameters for treatment technique
   3  2  1
6. Input data appropriate for treatment plan
   (i.e., wedge, bolus, block, etc.)
   3  2  1
7. Run the computer plan on the treatment planning computer
   3  2  1
8. Obtain computer-generated printout of treatment plan/calculations
   3  2  1
9. Verify computer plan with hand calculation
   3  2  1
10. Record the information in the patient's chart
    3  2  1

Score:

Clinical Instructor explained the evaluation to the student: Yes Yes
Comments:

Dosimetrist Signature: _______________________________________________

Student Signature: __________________________________________ Date: _______________
RADIATION THERAPY PROGRAM

STUDENT EVALUATION OF THE CLINICAL SITE

Course # & Title: __________________________ Semester: Spring/Summer/Fa1120 _______.
Clinical Site:

If you rotated through more than one clinical site, please fill out a form for each site. Write any additional comments on the back of the form.

5= Strongly Agree 4= Agree 3= Uncertain 2= Disagree 1= Strongly Disagree 0= Not Applicable

Using the above scale, rate the following characteristics:

_____ 1. The grading criterion of the course was clear to me.
_____ 2. I was adequately supervised while performing selected tasks.
_____ 3. I was allowed to participate in a learning capacity in the area of my rotation(s).
_____ 4. The clinical instructors treated me with respect.
_____ 5. I had frequent feedback from my clinical instructor(s).
_____ 6. The clinical instructor(s) helped me apply theory to solve problem(s).
_____ 7. I felt free to ask questions or express my opinions to the clinical instructor(s).
_____ 8. The clinical instructor(s) dealt fairly and impartially with me.
_____ 9. The clinical instructor(s) were readily available when I had problems.
_____ 10. The clinical instructor(s) demonstrated a professional attitude.
_____ 11. I had frequent contact with my clinical supervisor.
_____ 12. I felt that I could go to my clinical supervisor if I was having a problem in the clinic.
_____ 13. I feel that, as a result of this clinical rotation, my grasp of the fundamentals of radiation therapy has been increased.
_____ 14. I feel that, as a result of this clinical rotation, my technical skill level has increased.

Student: _____________________________________________
Date: _________________________
Course: RTT 450 Clinical Education III  
Spring 2004 (10 Semester Credit Hours/32 contact hours)

Description: Fundamental clinical practice in radiation oncology: malignant conditions, methods of treatment, simulation, treatment planning, patient prognosis, and treatment results.  
Prerequisite: Successful completion of RTT 351.

Instructor: Pamela C. Cartright, MA.Ed, R.T (R)(T)  
Cell phone (Emergency only) 205-601-1252  
Office phone: 205-934-7368  
Email through WebCT  
Office Hours: Non-clinic days: 10:00 – 4:00  
Schedule posted online and on door  
Appointments encouraged.

Day/Time: Students are required to spend 32 hours per week in clinic.  
Monday-Thursday 8:00 am to 4:40 pm  
Lunch: Based on facility policy

Location: Assigned Clinical Sites

Grading Scale:  
A = 92-100  
B = 84-91  
C = 75-83  
D = 67-74  
F = 0-66

Grading Criteria: Clinical rotation objectives and competencies = 40 %  
Personal and Professional Growth Assessment = 30 %  
Comprehensive Clinical Training Competency 30 %

Students must complete and pass all required competencies in addition to the Comprehensive Clinical Training Competency in order to pass Clinic III.

Evaluation: Assessment of progress toward entry-level skills will be done through review of clinical competencies as well as through observation in clinic. A mid-term evaluation will be done with the student to provide clinical performance feedback to the student.

All clinical objectives must be met.
Clinical Objectives: 40% of grade

Overall objectives: At the completion of this course, the student will have:

1. Completed and passed all Treatment competency requirements.
2. Completed and passed all Simulation competency requirements.
3. Completed and passed all Dosimetry competency requirements.
4. Completed and passed all Brachytherapy competency requirements.
5. Completed and passed all Block Modification competencies.
6. Completed and passed the Nursing checklist.
7. Selected a specific cancer diagnosis for study and specific new cancer patient with this diagnosis for follow through of the entire radiation therapy process.
8. Worked closely with the selected patient’s Radiation Oncologist beginning with the initial consultation and treatment planning process.
10. Developed an appropriate treatment plan and calculated machine settings for treatment delivery for the same patient.
11. Constructed any treatment accessories necessary for proper treatment delivery of the selected patient.
12. Administered the correct treatment on the first day for the selected patient.
13. Demonstrated correctly the appropriate documentation and billing for each procedure done on the selected patient.

Specific clinical objectives: Upon completion of this course, students will:

1. Discuss the relationship of the disease process and it’s relationship to the cancer patient through the completion of two case studies.
2. Demonstrate entry-level competency in all aspects of radiation oncology: treatment, simulation, and dosimetry.
3. Demonstrate ability of entry-level skills by completing specific competencies as follows
   a. Remaining treatment unit competencies
   b. Remaining simulation competencies
   c. Remaining Brachytherapy competencies
   d. Remaining treatment device construction competencies
   e. Competed the Nursing competency checklist

4. Evaluate the treatment process in the clinical setting through the accomplishment of the specific objectives outlined for each of the following rotations:

Treatment:
1. Explain the treatment procedure to the patient.
2. Position the patient correctly on the treatment table.
3. Immobilize the patient.
4. Demonstrate appropriate knowledge of dose to critical structures.
5. Demonstrate appropriate assessment of the patient’s condition and evaluate whether or not treatment should be delivered.
7. Position the film cassette and expose film for a port film.
8. Set up control panel for patient treatment and turn on the treatment unit.
9. Record the treatment in the patient’s chart.
10. Discuss patient scheduling/time needed for various types of setups.
11. Demonstrate an understanding of various procedures (reason for treatment, side effects, and care during treatment).
12. Locate any notation in the patient chart that indicates a change in setup or patient care.
13. Discuss the department policy for reporting and recording errors in treatment setup and appropriate action for correcting errors.
14. Perform the morning warm up on the treatment unit according to departmental protocol once a week.

Simulation:
1. Deliver, **under the direct supervision of a radiation therapist**, the treatment for the remaining treatment set-ups from the prescribed competency list
2. Demonstrate appropriate operation of equipment and quality control procedures.
3. Immobilize and position the patient for the procedure.
4. Identify important anatomical landmarks needed for proper setup.
5. Delineate and measure the field.
6. Use appropriate imaging techniques to localize the treatment volume.
7. Fill out the simulation sheet according to departmental protocol.
8. Perform morning warm-up QA for the simulator (CT simulator and convention simulator if facility has both) **once a week**.
9. Perform, **under the direct supervision of a radiation therapist**, the simulation for the remaining set-ups from the prescribed competency list.

Beam Modification:
1. Describe the purpose of beam modification devices.
2. Describe the types of beam modification devices used in a typical department.
3. Construct a custom block for a delivery of treatment using photons, and electrons.
4. Construct a custom bolus.

Brachytherapy:
1. Discuss the role of brachytherapy in a radiation oncology department.
2. Describe the types of brachytherapy procedures performed in the clinical affiliate.
3. Discuss radiation protection/safety policies and procedures pertinent to brachytherapy.
4. Observe and assist with brachytherapy procedures in the clinical affiliate.

Nursing:
1. Know the normal ranges for blood pressure, temperature, and respiration.
2. Obtain and document the vital signs for a patient.
3. Know the normal ranges for WBC, RBC, and platelet counts for a patient.
4. Interpret a lab report on a patient.
5. Explain why a BUN and Creatine is done on a cancer patient.
6. Know the normal ranges for a BUN and Creatine lab result.
Personal and Professional Growth Assessment: 30% of grade

The student will demonstrate the following:

1. Cognitive skills by demonstrating clinical knowledge, thinking, acquiring, evaluating and synthesizing information.
2. Psychomotor skills through physical and perceptual activities and skills.
3. Affective skills by the demonstration of feeling, preferences, and values appropriate to the clinical setting.

Criteria for Comprehensive Clinical Training Competency: To be completed by end of semester; serves as basis for Senior Presentation in RTT 477.

Topics: Duplications can only occur if not from the same clinic site and only TWO duplicates will be considered. The case should be based on one of the systems required by the ARRT and cleared through the Clinical Coordinator before initiation of project. Topics must be submitted as soon as possible in order to secure the topic of your choice.

Objectives:

At the completion of the Comprehensive Clinical Competency, the radiation therapy student should be able to:

1. Demonstrate progress in each aspect of radiation therapy as is reflected in the expected performance of an entry-level radiation therapist.
2. Demonstrate the expected competency in simulation, dosimetry, and treatment of cancer patients.
3. Demonstrate the ability to work closely with the team members to include the Radiation Oncologist beginning with the initial consultation, simulation, treatment planning process, and treatment of the patient.
4. Fabricate a custom blocking device or a computerized MLC if indicated by the treatment plan.
5. Perform backup hand calculations to indicate satisfactory understanding of dosimetry QA.
6. Develop an appropriate treatment plan via computer assistance.
   Calculate machine settings for treatment delivery via computer assistance
General instructions:

1. Each student will select a specific cancer diagnosis and a specific new cancer patient with this diagnosis for follow-through of the entire radiation therapy process.
2. The students must choose a patient that will be treated using multiple fields. The case should be complex, with complex blocking and treatment planning.
3. Before initiation of the case, the student MUST clear the case with the clinical coordinator.
4. The student must be present for each of the events involving the patient. The student is responsible for scheduling their time to coincide with the patient’s scheduled events.
5. The students will participate in the following activities:
   a. Initial work-up
   b. Simulation
   c. Block or ancillary device construction
   d. Dosimetry calculation and treatment plan development
   e. First day of treatment.

4. The student will do competencies with the appropriate trained healthcare providers for simulation, dosimetry, and treatment using the appropriate forms specific to this competency.
5. Because there are multiple tasks involved, each instructor must initial the skills they are personally responsible for.
6. The Senior Presentation will be prepared as a comprehensive review of this case study.

Evaluation:
1. Evaluation of competency in all areas will be done using the Comprehensive Clinical Competency Form to evaluate the student’s ability on a comprehensive level.
2. Clinical instructors will indicate competency/lack of competency by checking the appropriate box on this form (YES/NO/NA)
   a. YES: indicates competency.
   b. NO: indicates lack of competency.
   c. NA: indicates those tasks that are not appropriate to the particular case study chosen by the student.

The student must complete the comprehensive competency with an overall score of 90% indicating competency. If the student is unable to achieve a 90% competency score, a written detailed discussion of the areas that indicated lack of competency will be given to the clinical coordinator at the end of the term, and remedial action will be determined.
Objectives, Evaluation, and Instructions for Students and Clinical Instructors/Supervisors

Objectives:
1. Provide feedback at mid-term and at the end of the semester in the training of competent and compassionate caregivers.
2. Assess the student's personal and professional growth while in the clinical setting.
3. Guide them toward the improvement of their technical, professional, and communication skills.

Evaluation: The points in each section add up to 100 points. Each box is assigned a certain number of points. The highest number of points = 6, and the lowest number of points = 0.
1. Section One equals 60 points
   - Always = 6 points
   - Usually = 5 points
   - Occasionally = 1 points
   - Never = 0 points

2. Section Two equals 20 points
   - Always = 5 points
   - Usually = 4 points
   - Occasionally = 1 points
   - Never = 0 points

3. Section Three equals 20 points.
   - Always = 5 points
   - Usually = 4 points
   - Occasionally = 1 points
   - Never = 0 points

Instructions
1. This form will be used for all clinical rotations EXCEPT the first one.
2. Completed forms will be submitted to the clinical coordinator at mid-term and at the end of the semester (see below for details).
3. When appropriate, a plan will be developed to help the student improve in the areas of weakness during subsequent rotations.

First day of rotation:
1. One form per area of rotation will be completed.
2. The student will review the form with the clinical instructor on the first day of the rotation site/machine or area to identify and clarify expectations during the rotation period. Behaviors beyond those stated that are expected by the clinical instructor should be explained to the student at this time.
4. **The clinical supervisor and the student** both sign the **signature page** to indicate that the review process has taken place.

5. **The clinical supervisor** keeps the signature page in the student’s folder until the end of the semester

**Mid-term evaluations:**

1. **The student** provides the clinical instructor(s) working with them with a copy of the Personal and Professional Growth Form.

2. **The clinical instructor(s)** is/are to submit a copy of this form along with the mid-term evaluation form to the clinical supervisor for the site assigned to the student.

3. **The clinical coordinator** will go over this mid-term evaluation form with the student. This review of their strengths and weakness will allow them to correct any negative behaviors before the end of the semester.

**One week before the end of the rotation:**

1. **The student** is to give the clinical instructor(s) who is/are most familiar with their work a fresh copy of this form. The student is to sign the form after a review of the evaluation has taken place. Signature does not mean agreement.

2. **The clinical instructor(s)** who has/have worked with the student will evaluate the student's performance. The clinical instructor(s) is/are expected to go over this form with the student and explain the rationale evaluation given to the student.

3. **The clinical supervisor** reviews the Personal and Professional Growth Form and then signs the second part of the signature page, indicating that the student has been provided with the necessary feedback.

4. **The clinical coordinator** will use the Personal and Professional Growth Form as part of the overall clinical grade for the student.
Objectives and Instructions:

1. The first set of signatures below indicates that on the first day of the rotation, the clinical supervisor or the clinical instructor working with the student has discussed what is expected of the student during their rotation at the facility and the student understands those expectations.

   The Clinical Instructor/Supervisor has discussed personal and professional growth. The student understands that an assessment will be done to determine the level of growth in these areas.

2. The second set of signatures below indicates that the student has been evaluated at the end of the rotation and understands the reasons for the evaluations given.

   The signature of the student does not indicate agreement with the evaluations, only that they have been explained. If the student wishes to challenge the validity or fairness of the evaluations, a meeting may be set up with the only the student, the instructor/-supervisor doing the evaluation, the clinical coordinator and/or the Program Director. No one else may attend. This is a closed meeting and is considered confidential.

3. * In order for the form to be valid, the form cannot be backdated by either students or staff. If the review with the student did not take place on the first day of rotation, but instead took place on the fifth day of rotation, then that date must be used. The important thing is for the review of clinical and performance expectations to take place at the beginning of the rotation.

SIGNATURES AT **START** OF ROTATION:

Student Signature: _________________________________ Date: _________________

Clinical Instructor/Supervisor Signature: _______________

SIGNATURES AT **END** OF ROTATION:

Student Signature: _________________________________ Date: _________________

Clinical Supervisor Signature: ________________________
Clinical Instructions: Check the box in each category that **best** represents the student's performance. If you feel the student falls between two different categories, check both and the clinical coordinator will average them out. Extra comments can be placed on back of form.

### Section 1: Clinical Performance = 60 points

<table>
<thead>
<tr>
<th>Section</th>
<th>Never displays knowledge of fundamental principles; cannot answer basic questions</th>
<th>Usually can answer questions related to knowledge of fundamental principles</th>
<th>Occasionally can answer question related to knowledge of fundamental principles; has limited knowledge</th>
<th>Always able to answer questions related to knowledge of fundamental principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Accuracy</td>
<td>Always accurate: little help needed</td>
<td>Usually accurate, few mistakes; quick to learn</td>
<td>Occasionally accurate, often needs correction</td>
<td>Never accurate, needs constant correction; poor skills despite repetition</td>
</tr>
<tr>
<td>Consistency/Efficiency of Daily Technical Performance</td>
<td>Usually dependable; maintains a fairly stable performance of tasks each day in clinic</td>
<td>Never consistent from one day to the next in the performance of tasks; unreliable as a member of the team</td>
<td>Occasionally difficult to depend upon in the performance of daily clinical tasks; not always consistent/efficient</td>
<td>Always dependable; maintains a high consistency/efficiency in the performance of daily clinical tasks</td>
</tr>
<tr>
<td>Initiative</td>
<td>Always takes advantage of learning opportunities, self starter</td>
<td>Never shows initiative, neglects work or wanders: needs frequent reminders</td>
<td>Usually shows initiative, few reminders</td>
<td>Occasionally shows initiative, not a self-starter</td>
</tr>
<tr>
<td>Organization Skills</td>
<td>Never prepared for procedures and events; must be prompted for paperwork</td>
<td>Occasionally prepared for procedures and events; rarely has paperwork ready</td>
<td>Usually prepared for procedures and events; needs little prompting about paperwork</td>
<td>Always prepared for procedures and events; has paperwork up-to-date and prepared without prompting</td>
</tr>
<tr>
<td>Work Ethics</td>
<td>Always enthusiastic; considerate and helpful: follows instructions carefully and accurately</td>
<td>Occasionally lazy: only does what must be done, sometimes resistant to following directions</td>
<td>Never a team player, resents authority, complains about duties; resistant to following directions</td>
<td>Usually enthusiastic, rarely resistant to following directions</td>
</tr>
<tr>
<td>Focus</td>
<td>Always exhibits an unimpaired awareness of surroundings; focuses on the task at hand</td>
<td>Never focused; does not pay attention to surroundings; forgetful of details; doesn’t know what is going on around them</td>
<td>Occasionally not focused on surroundings; must be reminded of task at hand; very absentminded</td>
<td>Usually exhibits an unimpaired awareness of surroundings; rarely absentminded; usually focused</td>
</tr>
<tr>
<td>Use and Care of Equipment</td>
<td>Occasionally misuses equipment and facilities</td>
<td>Always careful with equipment and facilities</td>
<td>Usually is careful with equipment and facilities</td>
<td>Never is careful with equipment or facilities, abusive and careless</td>
</tr>
<tr>
<td>Patient/Peer Communication</td>
<td>Always relays information appropriately and accurately; respects patient confidentiality</td>
<td>Never communicates necessary information, does not communicate with patients, or is inappropriate in front of patients</td>
<td>Occasionally transmits pertinent information when prompted; has trouble speaking to or is occasionally inappropriate in front of patients</td>
<td>Usually transmits pertinent information with little or no prompting; quickly learns when corrected</td>
</tr>
<tr>
<td>Problem Solving/Critical Thinking</td>
<td>Always shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
<td>Usually shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
<td>Never shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
<td>Occasionally shows ability to identify and assess problems in routine/non-routine procedures or emergencies with actions resulting in a positive outcome</td>
</tr>
</tbody>
</table>
## Personal and Professional Growth Assessment Form (Page 2)

### Section 2: Personal Characteristics = 20 points

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Occasionally a team player, often difficult to work with; may need counseling</th>
<th>Always works well with others; good team player</th>
<th>Never works well with others; very difficult to work with; needs improvement in people skills; needs counseling</th>
<th>Usually a good team player; works well with others without much trouble</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-operative</td>
<td>Never considerate, treats patient/peer</td>
<td>Occasionally polite; often inconsiderate to others;</td>
<td>Always polite; shows appropriate</td>
<td>Usually polite; shows some empathy; rarely</td>
</tr>
<tr>
<td>Compassion/</td>
<td>Indifferently or unprofessionally; must be counseled repeatedly</td>
<td>Often behaves in an unprofessional manner or shows lack of compassion and empathy; may need counseling</td>
<td>Professionalism, concern and empathy; shows compassion for patients and peers</td>
<td>Needs to be approached about unprofessional attitude or lack of compassion</td>
</tr>
<tr>
<td>Attitude Toward Patient/Peer</td>
<td>Always treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Occasionally treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Never treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Needs counseling</td>
</tr>
<tr>
<td>Respectful</td>
<td>Always treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Occasionally treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Never treats individuals equally regardless of race, creed, culture or lifestyle</td>
<td>Needs counseling</td>
</tr>
<tr>
<td>Accepts</td>
<td>Always utilizes criticism constructively without hostility</td>
<td>Occasionally accepts constructive criticism; is defensive and demonstrates hostility; needs counseling</td>
<td>Usually accepts constructive criticism grudgingly; some hostility and argument; may need counseling</td>
<td>Usually accepts constructive criticism without becoming defensive or argumentative</td>
</tr>
<tr>
<td>Constructive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criticism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section 3: Policies and Procedures = 20 points

<table>
<thead>
<tr>
<th>Policy</th>
<th>Occasionally unkept and untidy; poor personal hygiene; needs counseling</th>
<th>Usually professional, usually neat and clean: good personal hygiene</th>
<th>Always very professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Appearance</td>
<td>Usually on time; 1-2 tardies</td>
<td>Occasionally tardy; 3–5 tardies; sometimes forgets to call; needs counseling</td>
<td>Never on time; usually doesn’t call; needs counseling</td>
</tr>
<tr>
<td>Punctuality</td>
<td></td>
<td>Dates</td>
<td>Dates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: 2 tardies=1 absence</td>
<td>Note: 2 tardies=1 absence</td>
</tr>
<tr>
<td>Attendance</td>
<td>Usually in clinic on scheduled days; usually calls when out; 1 day missed</td>
<td>Occasionally absent; sometimes forgets to call when out; 2 days missed</td>
<td>Always calling in or routinely absent; more than 2 days missed; needs counseling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dates</td>
<td>Dates</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: 2 tardies=1 absence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: 2 tardies=1 absence</td>
</tr>
<tr>
<td>Radiation Safety</td>
<td>Occasionally wears film badge and ring as per policy</td>
<td>Occasionally wears film badge and ring as per policy; Must be reprimanded. Needs improvement; Written Warning to be given.</td>
<td>Usually wears film badge and ring as per policy. Does not need to be sent home</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Date</td>
<td>Date</td>
</tr>
</tbody>
</table>

Clinical Instructor/Supervisor reviewed evaluation with student: Yes/No
Clinical Instructor Signature: ____________________________________________________________

Student Signature: __________________________________________ Date: ________

Place additional comments on back of form.
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulation Competency
Objectives, Evaluation, and Instructions

Overall Objectives:
At the completion of the Simulation rotation, the student should be able to:

1. Demonstrate progress in each aspect of simulation, including patient communication and assessment, simulation room set up, use/nonuse of contrast, and understanding of required documentation of simulation information in the patient’s chart.

2. Perform, under the direct supervision of a radiation therapist, three remaining simulations from the prescribed competency list.

Specific Objectives:

1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable".
2. Explain procedure to patient
3. Prepare supplies as needed for simulation
4. Monitor equipment and patient during procedure
5. Demonstrate patient care as situation required, including monitoring for possible contrast reactions
6. Position and immobilize patient using available tools and instrumentation as required
7. Perform CT scan for region of interest
8. Participate in determining treatment fields (on field or digitally)
9. Review and discuss CT scan and treatment plan with appropriate personnel
10. Utilize preset protocols or adjust imaging parameters (i.e., slice level, FOV) to obtain an image
11. Mark isocenter and transmit network images to workstation
12. Document the simulation parameters or discuss how the simulation should be documented in the treatment chart.
13. Document or explain how that procedure should be billed.

Evaluation:

1. The student will perform a selected competency based on the simulation procedures followed at his or her assigned clinical site.
2. The student will be graded on satisfactory performance, unsatisfactory performance (some mistakes are made, student needs improvement in some areas), or failure to demonstrate competency (student performs poorly, consistently makes mistakes during competency).
3. The assigned grading criteria are as follows:
   a. 3 = Satisfactory
   b. 2 = Unsatisfactory performance; needs improvement
   c. 1 = Failure
CT Simulation Competency Objectives, Evaluation, and Instructions (Cont)

Instructions:

Competency Requirements: The student will perform simulation procedures on a CT Simulator demonstrating the skills identified in the section on Specific Objectives. For each skill area, the student must participate with appropriate personnel at one or more of the following levels of responsibility: perform, discuss, review, or observe.

1. The student must perform the remaining simulation competencies by the end of the semester. Failure to do the required minimum will result in a loss of points on the overall clinical grade as well as an incomplete for the course.

2. The clinical instructor should complete the form at the end of each simulation competency.

3. The clinical instructor and the student will sign the form. The clinical instructor should explain the reason for the evaluation given, what could be improved upon, and what was done well.

4. A Simulation Competency Evaluation Form should be submitted for each competency performed.

5. If the student does not have the appropriate form, the Clinical Instructor can declare the competency invalid and the student will have to repeat the competency at a later date.

6. A student may not declare the competency evaluation invalid just because the student did not do well on the competency. The student may repeat the competency at another time, but the first competency stands as valid and should be included in the student’s paperwork.

7. If the student is not allowed to perform certain tasks, such as filling in the chart or billing, the student must verbally demonstrate knowledge of the procedure.

8. The student is not required to know the ICD code, but must demonstrate understanding of simple, intermediate, or complex categories, when to bill for immobilization device construction, and bolus.

9. The Competency form must be filled out completely in order to be turned in. It is important to check “initial” indicating the first time the competency is done or “repeat” indicating the student is repeating a competency.

10. The paperwork will not be accepted without all signatures and dates.
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulation Competency Form

Student Name: ___________________________ Clinical Site: __________________________
Date: ___________________________ Procedure: __________________________ Category: ___________

Competency Category: Initial _____ Repeat _____ Additional _________

3= Satisfactory 2= Unsatisfactory; Needs improvement 1= Failure

1. Demonstrate radiation safety and environmental protection by practicing ALARA 
   3 2 1

2. Explains procedure to patient and then obtains signed consent 
   3 2 1

3. Communicates with patient throughout the simulation procedure 
   3 2 1

4. Positions patient on simulator table in proper orientation to the simulator using positioning aids and immobilization devices. 
   3 2 1

5. With supervision, assist the physician/therapist in localizing and determining optimum fields to cover tumor volume. 
   3 2 1

6. Set up a preliminary treatment field, and with assistance from the therapist, take a radiograph. 
   3 2 1

7. Draw treatment field and sidelight marks correctly on patient's skin. 
   3 2 1

8. Label radiographs correctly for documentation of simulation. 
   3 2 1

9. Take appropriate photographs for documentation of set-up 
   3 2 1

10. Record treatment information correctly in patient's treatment chart, or verbally demonstrate understanding of the process. 
    3 2 1

11. Records or verbally demonstrates understanding of how to document information correctly for dosimetry. 
    3 2 1

12. Performs correct billing or verbally demonstrates understanding of the billing process (simple, intermediate, complex) dealing with the simulation, immobilization construction 
    3 2 1

13. Takes appropriate photographs for documentation. 
    3 2 1

The clinical instructor went over evaluation with student: Yes _______ No______

Student Signature: ___________________________ Clinical Instructor Signature: ___________________________ Date:
Conventional Simulator Quality Assurance (QA) Competency

Objectives, Evaluation, and Instructions

Objectives:
The student is expected to be able to perform the following equipment operation and QA by demonstrating the skills identified in the objectives below. The student must participate with appropriate personnel at one or more of the following levels of responsibility: Perform, discuss, review, or observe.

At the end of the simulation rotation, the student should be to do the following:

1. Turn on the simulator for morning warm-up
2. Check accuracy and performance of lasers, ODI, field sizes, fluoroscopy
3. Demonstrate knowledge of the simulator unit components and equipment
4. Locate all emergency OFF buttons for the following:
   a. Couch
   b. Gantry
   c. Wall
5. Check the function of table, gantry and collimator controls
6. Perform quality assurance mechanical checks prescribed by departmental protocol
7. Perform quality assurance tests on imaging devices as prescribed by departmental protocol

Evaluation:

1. This is a PASS/FAIL competency. The student must pass all the tasks to pass the competency.
2. If the student fails, the student must repeat the competency within the same week.
3. The scores for the first and second attempt will be averaged as part of the overall Clinical grade.

Instructions: This form is not valid unless competed the same day as the competency.

1. The student is expected to observe one warm-up before attempting to do a competency
2. The student must competently perform the warm-up procedures used at the assigned clinical site(s) to the satisfaction of the clinical instructor.
3. The student must have documentation of a warm-up competency for each week of the rotation except for the first week, in which the student is expected to observe the procedure.
4. The student is expected to perform a warm-up and testing QA procedure for each rotation through the conventional simulator EVEN if the site has both a conventional and a CT Simulator.
5. The clinical instructor will fill out the form the day the student performs the warm-up.
6. If the student misses a weekly competency, then the student may be allowed to make this up sometime during following week.
University of Alabama at Birmingham
Radiation Therapy Program
Conventional Simulator Quality Assurance (QA) Competency Form

Student: ____________________ Clinical Site: _____________________ Date: __________

PASS/FAIL: 85% pass necessary

Note: The student must perform all the tasks accurately in order to pass the QA Competency. The student has demonstrated competency in the warm-up and testing of a conventional simulator by doing the following procedures to the satisfaction of the clinical instructor.

1. Centers the table and sets at correct height to begin warm-up ________
2. Checks accuracy of table parameters using optical distance indicator (ODI) _______
3. Checks the ODI readout for accuracy using the manual distance indicator (or facility's tool) ________________
4. Checks table parameters for accuracy by doing the following:
   a. Table longitudinal
   b. Table lateral
   c. Table rotation
   d. Table vertical
5. Checks collimator rotation________
6. Checks field size alignment ________
7. Checks the accuracy of the lasers _______
8. Performs fluoroscopy check _______
9. Completes warm-up exposures using exposure technique for that facility______
10. Checks emergency ON/OFF switches on the following:_______
    a. Wall
    b. Table
    c. Console

11. Performs precision interlock check on equipment and on door ________

PASS _______ FAIL ________ If the student fails, the student must repeat the competency within the same week.

The clinical instructor explained the evaluation to the student: Yes___ No ___
Student Signature _____________________________________ Date: ____________
Clinical Instructor Signature ___________________________
University of Alabama at Birmingham
Radiation Therapy Program
CT Simulation Competency
Objectives, Evaluation, and Instructions

Overall Objectives:
At the completion of the Simulation rotation, the student should be able to:

1. Demonstrate progress in each aspect of simulation, including patient communication and assessment, simulation room set up, use/nonuse of contrast, and understanding of required documentation of simulation information in the patient’s chart.
2. Perform, under the direct supervision of a radiation therapist, the remaining simulations from the prescribed competency list.

Specific Objectives:

1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable”.
2. Explain procedure to patient
3. Prepare supplies as needed for simulation
4. Monitor equipment and patient during procedure
5. Demonstrate patient care as situation required, including monitoring for possible contrast reactions
6. Position and immobilize patient using available tools and instrumentation as required
7. Perform CT scan for region of interest
8. Participate in determining treatment fields (on field or digitally)
9. Review and discuss CT scan and treatment plan with appropriate personnel
10. Utilize preset protocols or adjust imaging parameters (i.e., slice level, FOV) to obtain image
11. Mark isocenter and transmit network images to workstation
12. Document the simulation parameters or discuss how the simulation should be documented in the treatment chart.
13. Document or explain how that procedure should be billed.

Evaluation:

1. The student will perform a selected competency based on the simulation procedures followed at his or her assigned clinical site.
2. The student will be graded on satisfactory performance, unsatisfactory performance (some mistakes are made, student needs improvement in some areas), or failure to demonstrate competency (student performs poorly, consistently makes mistakes during competency).
3. The assigned grading criteria are as follows:
   a. 3 = Satisfactory
   b. 2 = Unsatisfactory performance; needs improvement
   c. 1 = Failure
CT Simulation Competency Objectives, Evaluation, and Instructions (Cont)

Instructions:

Competency Requirements: The student will perform simulation procedures on a CT Simulator demonstrating the skills identified in the section on Specific Objectives. For each skill area, the student must participate with appropriate personnel at one or more of the following levels of responsibility: perform, discuss, review, or observe.

1. The student must perform the remaining simulation competencies by the end of the semester. Failure to do the required minimum will result in a loss of points on the overall clinical grade as well as an incomplete for the course.

2. The clinical instructor should complete the form at the end of each simulation competency.

3. The clinical instructor and the student will sign the form. The clinical instructor should explain the reason for the evaluation given, what could be improved upon, and what was done well.

4. A Simulation Competency Evaluation Form should be submitted for each competency performed.

5. If the student does not have the appropriate form, the Clinical Instructor can declare the competency invalid and the student will have to repeat the competency at a later date.

6. A student may not declare the competency evaluation invalid just because the student did not do well on the competency. The student may repeat the competency at another time, but the first competency stands as valid and should be included in the student’s paperwork.

7. If the student is not allowed to perform certain tasks, such as filling in the chart or billing, the student must verbally demonstrate knowledge of the procedure.

8. The student is not required to know the ICD code, but must demonstrate understanding of simple, intermediate, or complex categories, when to bill for immobilization device construction, and bolus.

9. The Competency form must be filled out completely in order to be turned in. It is important to check “initial” indicating the first time the competency is done or “repeat” indicating the student is repeating a competency.

10. The paperwork will not be accepted without all signatures and dates.
University of Alabama at Birmingham
Radiation Therapy Program
CT Simulation Competency Form

Student Name: ___________________ Clinical Site: _____________ Date: ____________

Procedure: _____________________________ Category:

Competency Category: Initial _____ Repeat _______ Additional_______

3= Satisfactory 2= Unsatisfactory 1= Failure 0= NA

1. Demonstrate radiation safety and environmental protection by practicing ALARA
   (3) (2) (1) (0)

2. Explains procedure to patient and then obtains signed consent (3) (2) (1) (0)

3. Positions patient on simulator table in proper orientation to the simulator using appropriate
   positioning aids. (3) (2) (1) (0)

4. Constructs, with assistance, necessary immobilization devices. (3) (2) (1) (0)

5. Draws preliminary sidelight marks correctly on patient's skin. (3) (2) (1) (0)

6. Initiates, with supervision, scout films to verify alignment (3) (2) (1) (0)

7. Programs the console, with supervision, to initiate scan procedure according to departmental protocol
   (3) (2) (1) (0)

8. Communicates with patient throughout simulation procedure (3) (2) (1) (0)

9. Transmits network images to workstation (3) (2) (1) (0)

10. With supervision, uses virtual simulation to place isocenter. (3) (2) (1) (0)

11. Draws the isocenter and positioning marks correctly on patient's skin.
    (3) (2) (1) (0)

12. Records or verbally demonstrates understanding of how to document simulation information
    correctly in patient's treatment chart. (3) (2) (1) (0)

13. Records or verbally demonstrates understanding of how to document information correctly
    for dosimetry. (3) (2) (1) (0)

14. Performs correct billing or verbally demonstrates understanding of the billing process (simple,
    intermediate, complex) (3) (2) (1) (0)

15. Takes appropriate photographs for documentation dealing with the simulation, immobilization
    construction (3) (2) (1) (0)
The clinical instructor went over evaluation with student: Yes ___ No __
Student Signature: __________________________ Date __________
Clinical Instructor Signature: _________________________________
University of Alabama at Birmingham  
Radiation Therapy Program  
Conventional Simulator Quality Assurance (QA) Competency  
Objectives, Evaluation, and Instructions

Objectives:
The student is expected to be able to perform the following equipment operation and QA by demonstrating the skills identified in the objectives below. The student must participate with appropriate personnel at one or more of the following levels of responsibility: Perform, discuss, review, or observe.

At the end of the simulation rotation, the student should be to do the following:

1. Turn on the CT simulator for morning warm-up.
2. Demonstrate knowledge of the CT simulator components and equipment.
3. Check the function of the emergency OFF buttons for the following:
   a. Couch
   b. Gantry
   c. Wall
4. Check accuracy of lasers.
5. Perform quality assurance mechanical checks prescribed by departmental protocol.
6. Perform quality assurance tests on imaging devices as prescribed by departmental protocol through the use of phantom scans.
7. Document the data acquired through the warm-up procedure in the appropriate logs.
8. Explain what to do when confronted with a warm-up demonstrating parameters outside of normal limits.

Evaluation:

1. This is a PASS/FAIL competency. The student must pass all the tasks to pass the competency.
2. If the student fails, the student must repeat the competency within the same week.
3. The scores for the first and second attempt will be averaged as part of the overall Clinical grade.

Instructions: This form is not valid unless competed the same day as the competency.

1. The student is expected to observe one warm-up before attempting to do a competency.
2. The student must competently perform the warm-up procedures used at the assigned clinical site(s) to the satisfaction of the clinical instructor.
3. The student must have documentation of a warm-up competency for each week of the rotation except for the first week, in which the student is expected to observe the procedure.
4. The student is expected to perform a warm-up and testing QA procedure for each rotation through the conventional simulator even if the site has both a conventional and a CT Simulator.
5. The clinical instructor will fill out the form the day the student performs the warm-up.
6. If the student misses a weekly competency, then the student may be allowed to make this up sometime during following week.
This is a PASS/Fail competency. The student must perform all the tasks accurately in order to pass the QA Competency. The student has demonstrated competency in the warm-up and testing of a CT simulator by doing the following procedures to the satisfaction of the clinical instructor.

1. Turns on the CT Scanner for morning warm-up
2. Turns on the computers according to the correct procedure
3. Checks the function of the table controls by:
   a. Raising/lowering table
   b. Move table longitudinally
4. Checks the accuracy of the lasers
5. Attaches ancillary devices such as water phantom correctly
6. Sets control panel correctly for exposure of water phantom
7. Performs the phantom scan
8. Locates the emergency ON/OFF buttons for the:
   a. Couch
   b. Table
   c. Wall
   d. Control panel
9. Transfers image to Voxel-Q for archive
10. Documents the data acquired through the warm-up procedure in the appropriate logs
11. Explains what to do when confronted with a warm-up demonstrating parameters outside of normal limits.

PASS ______ FAIL _______ If the student fails, the student must repeat the competency within the same week.

The clinical instructor explained the evaluation to the student: Yes _______ No _____

Student Signature: __________________________________Date _______________
Clinical Instructor Signature: _____________________________________________
University of Alabama at Birmingham  
Radiation Therapy Program  
Treatment Competency

Objectives, Evaluation, and Instructions

Objectives:
At the completion of the Treatment rotation, students should be able to:

1. Demonstrate radiation safety and environmental protection by practicing ALARA: which means radiation exposures should be kept "As Low As Reasonably Achievable”.
2. Perform quality control/quality assurance in the treatment arena
3. Demonstrate proper equipment operation
4. Set up machine and patient for treatment
5. Monitor the patient and the machine while performing a treatment
6. Perform treatment and prescription verification using port films and other appropriate mechanisms
7. Show consideration of dose to critical structures
8. Practice accurate record keeping
9. Demonstrate a knowledge of patient assessment, care, management, and education
10. Deliver, under the direct supervision of a radiation therapist, treatments for at least 10 types of set-ups from the prescribed competency list.

Evaluation:
1. The student must perform a selected treatment competency based on the way the treatment procedures are done at his or her assigned clinical site.
2. The competency must be performed to the satisfaction of the clinical instructor.
3. If the student does poorly on the selected competency, the student may repeat the competency on another day. BOTH competencies must be turned in. The grades for the two will be averaged into the overall clinical grade.
4. If the student simply cannot do the competency, or is consistently making mistakes during the competency, the clinical instructor may stop the competency, take over the treatment of the patient, and fail the student on that competency. The student may not argue. It is the instructor’s call.
5. If the student is not allowed by the facility to physically do certain parts of the task, such as documenting the patient’s treatment in the patient’s chart or billing the patient for the treatment, then the student should VERBALLY demonstrate knowledge of how to do this.
6. The following scale is used to grade the competency:

   3 = Satisfactory Performance
   2 = Unsatisfactory Performance, needs improvement
   1 = Failure
Instructions:
1. **The student** is responsible for providing the paperwork to grade the competency before the competency starts.
2. If the student does not have the paperwork for evaluation of the competency before the competency begins, the instructor is not obligated to do the competency until the paperwork is produced.
3. **The clinical instructor** must complete the evaluation of the competency **that day**.
Student:  
Clinical Site:  
Date:  

Procedure:  
Treatment Machine:  

Competency Category: Initial ( ) Repeat ( )  
3= Satisfactory 2= Unsatisfactory; needs improvement 1= Failure

**Pre-treatment**
1. Reviews chart prior to preparing room/patient  
   3  2  1
2. Prepares treatment room according to set-up instructions  
   3  2  1
3. Greets and assists correct patient to treatment room  
   3  2  1
4. Communicates with patient during set-up and/or explains any changes in treatment procedure  
   3  2  1

**Patient Set-up**
5. Immobilizes patient  
   3  2  1
6. Positions patient  
   3  2  1
7. Sets treatment parameters  
   3  2  1
8. Positions treatment machine  
   3  2  1
9. Inserts correct block/Sets MLC  
   3  2  1
10. Uses correct treatment accessories  
    3  2  1
11. Verifies treatment field  
    3  2  1
12. Marks treatment field as needed  
    3  2  1
13. Checks to be sure everyone except patient is out of room before beaming on  
    3  2  1
14. Performs treatment set-up efficiently  
    3  2  1
15. Demonstrates knowledge of critical structures  
    3  2  1

**Treatment Console**
16. Demonstrates knowledge of ALARA  
    3  2  1
17. Verifies dose prescription in chart  
    3  2  1
18. Sets prescribed dose  
    3  2  1
19. Activates unit to deliver prescribed dosage  
    3  2  1
20. Monitors patient and machine during treatment  
    3  2  1
21. Documents or verbally demonstrates understanding of how to document treatment in patient's chart  
    3  2  1
22. Performs/verbally demonstrates understanding of billing techniques: simple, intermediate, or complex; port films, addition of bolus; etc.  
    3  2  1
Clinical Instructor went over the evaluation: Yes ___ No ___

Student Signature: ___________________________ Date: __________________________
Clinical Instructor Signature: ________________________________
Objectives:
The student is expected to be able to perform the following equipment operation and QA/QC by demonstrating the skills identified in the objectives below. The student must participate with appropriate personnel at one or more of the following levels of responsibility: Perform, discuss, review, or observe.

At the end of each treatment rotation, the student will be able to:

1. Warm-up treatment unit according to departmental protocol
2. Perform safety checks on treatment unit according to departmental protocol
3. Check dose rate to verify accuracy by using radiation measuring devices and standardized conditions
4. Check gantry rotation for accelerator
5. Verify accuracy of lasers and optical distance indicator (range finder)
6. Check alignment of field sizes
7. Check function of interlocks on treatment table, electron cones and door
8. Check collision safety system for proper operation
9. Check emergency OFF switches to assure proper operation
10. Document the data acquired through the warm-up procedure in the appropriate logs
11. State to whom it is necessary to report malfunctioning or unacceptable QA readings as prescribed by departmental protocol.

Evaluation:
1. This is a PASS/FAIL competency. The student must pass all the tasks to pass the competency.
2. If the student fails, the student must repeat the competency within the same week.
3. The scores for the first and second attempt will be averaged as part of the overall clinical grade.

Instructions: This form is not valid unless competed the same day as the competency.

1. The student is expected to observe one warm-up before attempting to do a competency
2. The student must competently perform the warm-up procedures used at the assigned clinical site(s) to the satisfaction of the clinical instructor.
3. The student must have documentation of a warm-up competency for each week of the rotation except for the first week, in which the student is expected to observe the procedure.
4. The student is expected to perform weekly warm-up and testing QA procedures for each rotation through Treatment
5. The clinical instructor will fill out the form the day the student performs the warm-up.
6. If the student misses a weekly competency, then the student may be allowed to make this up sometime during following week.
This is a PASS/FAIL competency. The student must perform all the tasks accurately in order to pass the QA Competency. The student has demonstrated competency in the warm-up and testing of a treatment machine by doing the following procedures to the satisfaction of the clinical instructor.

1. Warms up treatment unit according to departmental protocol ____
2. Perform safety checks on treatment unit according to departmental protocol
3. Checks dose rate to verify accuracy by using radiation measuring devices and standardized conditions ______
4. Checks function of gantry rotation and collimator rotation for accelerator
5. Verifies alignment of lasers ______
6. Checks function of interlocks on treatment table for proper operation ______
7. Checks function of interlocks on electron cones for proper operation ______
8. Checks collision safety system on gantry for proper operation ______
9. Checks function of interlocks on door for proper operation ______
10. Verifies accuracy of optical distance indicator ______
11. Checks alignment of field sizes ______
12. Checks emergency OFF switches to assure proper operation ______
13. Documents the data acquired through the warm-up procedure in the appropriate logs______
14. Explains what to do when confronted with a warm-up demonstrating parameters outside of normal limits.

PASS _____ FAIL _____ If the student fails, the student must repeat the competency within the same week.

The clinical instructor explained the evaluation to the student: Yes ______

Student Signature: _________________________________ Date: ________________
Clinical Instructor Signature: ________________________________
University of Alabama at Birmingham  
Radiation Therapy Program  
TBI Photon Treatment Competency

Student: ________________________________ Clinical Site: ________________________________
Date: _________________________________

Instructions: Total Body Irradiation (Photon) is a required competency by the ARRT.

Evaluation:

3 = Satisfactory Performance  
2 = Unsatisfactory Performance  
1 = Failure

1. Explains/assists in the room set-up 3 2 1
2. Explains the rationale for the extended distance used for treatment 3 2 1
3. Explains the placement and purpose of the scatter shield 3 2 1
4. Explains the rationale for blocking the lungs for the photon field 3 2 1
5. Sets the correct dose rate and other treatment parameters at the treatment console 3 2 1
6. Assists with the port films 3 2 1
7. Observes the interpretation of the port films 3 2 1
8. Documents or explains how to document the treatment in the patient’s chart. 3 2 1
9. Explains how to bill the patient for the treatment, port films, etc. 3 2 1
10. Explains what acute side effects to look for and how to cope with them when they occur 3 2 1

Score:

Clinical Instructor explained the evaluation with the student: Yes ________ No ___
Student Signature: _______________________________ Date: ______________
Clinical Supervisor/Instructor Signature: _________________________________
University of Alabama at Birmingham  
Radiation Therapy Program  
Brachytherapy Requirements

Objectives, Evaluation, and Instructions:

Objectives
At the end the Radiation Therapy Program, the student will be or has been able to:

1. Familiar with the procedures for brachytherapy as practiced at their assigned clinical site(s).
2. Observe a minimum of two brachytherapy procedures at their assigned site(s).
3. Participate in those areas of the procedures in which the clinical facility allows the student and deems important for the student.
4. Discuss knowledgably about the areas of brachytherapy procedures in which the student is only allowed to observe rather than actively participate.

Evaluation:

1. The Radiation Therapy Program requires a minimum of two brachytherapy observations. It is not considered a true competency because the student is not allowed to do the entire procedure on his or her own.
2. The brachytherapy requirements are a combination of observation and participation. It is best but not required for the student to witness a variety of brachytherapy procedures with at least one attempt made to observe the loading of sources in a patient having a low dose rate procedure.
3. The participation of the student is graded on a PAS/FAIL basis. Areas of observation only are simply checked to indicate completion.

Instructions:

1. The assigned facility decides which areas of the brachytherapy procedure are for participation and which areas are for observation only.
2. The student will be graded on a PASS/FAIL basis for those areas he or she is expected to participate in.
3. The student will also be graded on a PASS/FAIL basis on his or her ability to answer questions from the clinical instructor, thus demonstrating understanding of the both the observed procedures and the procedures participated in.
4. If the student fails in either or both areas, the student will be allowed another chance, but both attempts will be used in the average of the overall clinical grade. One grade does not replace the other.
5. * The student must observe at least one full procedure before being allowed to participate in any brachytherapy procedure.
University of Alabama at Birmingham
Radiation Therapy Program
Brachytherapy Requirements Form

Student: _____________________ Clinical Site: _________________
Date: ______________ Procedure: ________________________
Requirement number: ( ) 1 ( ) 2 ( ) Additional
PASS = P FAIL = F

1. The student participated competently in the selected areas of the brachytherapy procedure to
the satisfaction of the clinical instructor and was able to answer /discuss knowledgably those
questions asked by the clinical instructor as they pertained to the procedure. PASS  FAIL

2. During the observation of the brachytherapy procedures, the student was able to answer and to
discuss knowledgably those questions asked by the clinical instructor as they pertained to the
procedure.

PASS  FAIL

Identified Areas of Difficulty:

Identified Areas of Strength:

The clinical instruction reviewed the evaluation with the student: Yes ______

Clinical Instructor Signature ________________________________

Student's Signature: ________________________________ Date: _________
University of Alabama at Birmingham  
Radiation Therapy Program  
Beam Modification Device Competency Form

Student: ____________________________________Clinical Site: ____________________

Date: ____________________

This competency is for: Photon Blocks _____ Electron Block _____ Custom Bolus

Instructions: Form must be filled out on the day of competency to be valid. The student is required to construct a set of photon blocks, at least one electron block, and a custom bolus.

Evaluation: Place a "P" for pass, an "F" for fail, or "NA" for not applicable for those tasks the student is not performing.

In the construction of custom blocks or custom bolus, the student is able to:

1. Respond correctly to the questions below and cut a set of custom photon blocks to the satisfaction of the clinical instructor
   a. Describe the physical properties of cerrobend.  
   b. Explain the purpose of custom blocks.  
   c. Determine the necessary thickness of the different photon energies when doing the photon block competency.

2. Respond to the questions below and cut a custom electron block to the satisfaction of the clinical instructor.
   a. Describe the physical properties of cerrobend  
   b. Compare the difference in thickness between photon and electron energies when doing the electron block competency

3. Using MLC, digitize a photon field to the satisfaction of the clinical instructor.

4. Respond correctly to the questions below and construct a custom bolus to the satisfaction of the clinical instructor.
   a. Explain the need for a bolus.  
   b. Give two examples of treatments that might require a special bolus.  
   c. Discuss how a custom bolus modifies the beam for both electron and photon treatments.

PASS: _______  
FAIL: _______  
Comments on back:

Clinical Instructor explained the evaluation to the student: Yes ____ No _____

Clinical Instructor's Signature: ____________________________________________________

Student's Signature: _______________________________  Date: ____________________
Objectives: At the end of the nursing rotation, the student should be able to:

1. Develop an appreciation for the duties of the nursing staff within a Radiation Therapy department.
2. Develop an understanding of the process of initial consult, weekly checkups by the physicians of the patients under treatment, and the follow-up at completion of treatment.
3. Obtain and record the vital signs of blood pressure, pulse, temperature, and respiration.
4. Attach nasal cannulae from an oxygen tank to a patient and deliver the correct level of oxygen to the patient.
5. Weigh a patient.
6. Operate a suction machine.
7. Discuss radiation side effects for patients being treated for:
   a. Head/neck cancer
   b. Breast cancer
   c. Lung cancer
   d. OB/GYN cancers
   e. Prostate cancer

Evaluation:

1. The student performs the tasks based on the objectives for the rotation and is graded on a pass or fail basis.
2. The student must be able to do all tasks on the checklist to pass competency. 
3. In the event that the student does not pass the checklist, the instructor should explain the correct method of accomplishing the tasks failed, and have the student perform the tasks again.

Instructions:

1. The student will spend one week during the last semester participating in a nursing rotation in the assigned clinical site.
2. The student will be checked off on the tasks on the Nursing Checklist during the rotation.
University of Alabama at Birmingham
Radiation Therapy Program
Nursing Clinical Checklist

Student Name: __________________________ Clinical Site: _____________

Date: __________________________

This is a PASS/FAIL Competency.

Rotational Task Checklist
1. Obtains blood pressure and records the reading in the patient’s chart.
2. Obtains temperature of patient and records the reading in the patient’s chart.
3. Obtains pulse of patient and records the reading in the patient’s chart.
4. Obtains respiration of patient and records the reading in patient’s chart.
5. Weighs the patient and records the reading in patient’s chart.
6. Attach nasal cannulae from an oxygen tank to a patient and deliver the correct level of oxygen to the patient.
7. Operate the suction machine.
8. Discuss radiation side effects for patients being treated for:
   a. Head/neck cancer
   b. OB/GYN cancers
   c. Breast cancer
   d. Prostate cancer
   e. Lung cancer
9. Explain the duties of the nursing staff in a Radiation Therapy department.
10. Discuss the process of initial consult, weekly check-ups during treatments, and follow-up at the end of a course of treatment.

Pass (P): __________ Fail (F):
Comments:

The instructor reviewed the checklist with the student: Yes  No

Nursing Instructor Signature: _______________________________________

Student Signature ___________________________________: Date: __________
University of Alabama at Birmingham
Radiation Therapy Program
Comprehensive Clinical Training Competency Requirements
Objectives, Evaluation, and Instructions

Objectives:

At the completion of the Comprehensive Clinical Competency, the radiation therapy student should be able to:

1. Demonstrate progress in each aspect of radiation therapy as is reflected in the expected performance of an entry-level radiation therapist.
2. Demonstrate the expected competency in simulation, dosimetry, and treatment of cancer patients.
3. Demonstrate the ability to work closely with the team members to include the Radiation Oncologist beginning with the initial consultation, simulation, treatment planning process, and treatment of the patient.
4. Fabricate a custom blocking device or a computerized MLC if indicated by the treatment plan.
5. Perform backup hand calculations to indicate satisfactory understanding of dosimetry QA.
6. Develop an appropriate treatment plan via computer assistance.
7. Calculate machine settings for treatment delivery via computer assistance.

Evaluation for the Comprehensive Competency:

1. Evaluation of competency in all areas will be done using the Comprehensive Clinical Competency Form to evaluate the student’s ability on a comprehensive level.
2. Clinical instructors will indicate competency/lack of competency by checking the appropriate box on this form (YES/NO/NA).
   a. YES: indicates competency.
   b. NO: indicates lack of competency.
   c. NA: indicates those tasks that are not appropriate to the particular case study chosen by the student.

The student must complete the comprehensive competency with an overall score of 90% indicating competency. The student will not pass RTT 450 if the student does not pass the comprehensive competency with A SCORE OF 90%, no matter what the other averages for the course. If the student is unable to achieve a 90% competency score, a written detailed discussion of the areas that indicated lack of competency will be given to the clinical coordinator/Program Director at the end of the term, and remedial action will be determined.

The remedial action will take place during the next scheduled semester. The student will select another case and repeat the entire comprehensive competency. If the student passes the comprehensive competency with a 90%, the student will be allowed to finish the Program, graduate, and sit for the ARRT exam.
Topic:
1. In order to insure a variety of topics for the presentation of the case study, duplicate topics will only be approved if the student is at a different site.
2. Two students at the same site cannot do the same topic.
3. The case should be based on one of the systems required by the ARRT and cleared through the Clinical Coordinator before initiation of the project.
4. The criteria for the presentation will be found in the syllabus for RTT 477.

General instructions for the Comprehensive Competency:

1. Each student will select a specific cancer diagnosis and a specific new cancer patient with this diagnosis for follow-through of the entire radiation therapy process.
2. The students must choose a patient that will be treated using multiple fields. The case should be complex, with complex blocking and treatment planning.
3. Before initiation of the case, the student MUST clear the case with the clinical coordinator.
4. The student must be present for each of the events involving the patient. The student is responsible for scheduling their time to coincide with the patient’s scheduled events.
5. The students will participate in the following activities:
   a. Initial consultation
   b. Simulation
   c. Block or ancillary device construction
   d. Dosimetry calculation and treatment plan development
   e. First day of treatment.
6. The student will do competencies with the appropriate trained healthcare providers for simulation, dosimetry, and treatment using the appropriate forms specific to this competency.
7. Because there are multiple tasks involved, each instructor must initial the skills they are personally responsible for.
8. When each section of tasks is competed, the student has the instructors involved with the evaluation sign off on the Signature Page.
9. Once the Signature Page is complete, it is placed in front of the Comprehensive Clinical Training Competency and turned to the Clinical Supervisor at the site where the competency was completed.
10. The Senior Presentation for RTT 477 is prepared as a comprehensive review of the competency.
University of Alabama at Birmingham
Radiation Therapy Program
RTT 450: Clinical Education III
Comprehensive Clinical Training Competency Signature Page

Instructions: This page will go in front of the Comprehensive Competency Forms. As each student completes a section of the competency, the clinical instructor (s) evaluating the student are to sign this sheet signifying completion of that section. The student will sign and date the sheet at the completion of all tasks included in the Comprehensive Competency.

Simulation:
Date: ___________
Clinical instructor (s):
___________________________________________________________________________
___________________________________________________________________________

Dosimetry:
Date: ___________
Clinical Instructor (s)
___________________________________________________________________________
___________________________________________________________________________

Beam Modification Device Construction (if indicated):
Date: ___________
Clinical Instructor(s): _______________________________________________________

Treatment:
Date: _________________
Clinical Instructor(s): _______________________________________________________
Student Name: _____________________________ Cancer Category: ___________
Date: _______________________________

Instructions for evaluation: Place a P for PASS, F for FAIL, or NA for Not Applicable beside the skill. The student must have a 90% PASS for this competency.

The clinical instructor doing the evaluation must initial after each skill.

The student successfully completed the simulation section of the Comprehensive Clinical Training Competency by performing the following skills:

1. Identifies patients by armband, photograph, and/or questioning the patent; obtain signed consent. __________________

2. Introduces themselves, and explain/discuss the procedure with patient to gain cooperation/provide emotional support.

3. Questions the patient as well as reviews the chart with regard to allergies, medication, and necessary lab work in the event contrast media will be used.

4. Uses proper body mechanics to avoid injury when assisting patient onto and off of the simulation table.

5. Monitors the patient who has accessory medical equipment such as IV's, oxygen, nasogastric tubes, etc., or shows knowledge of use of such hospital apparatus.

6. Decides the most appropriate position for the patient based on the area needing to be treated, and properly positions the patient on the simulation table.

7. Designs/constructs the immobilization and positioning aids needed to provide optimum effect and replication of treatment set-up.

8. Administers any necessary contrast media requested by the physician by using the appropriate method. ________________

9. Demonstrates or verbally indicates knowledge of actions necessary for medical attention and emergency care in the event of a critical situation, such as drug reaction to medication of contrast medium, bleeding, seizure, respiratory or cardiac arrest. __________________
10. Practices radiation safety in regard to the patient and themselves. _________

11. Interacts with physician in determining optimum fields to cover volume of interest during conventional simulation, or virtual simulation if using a CT simulator. 

12. If doing a conventional simulation assists the physician in fluoroscopy, adjusting controls as needed for optimum visualization and filming during localization of fields. ______________

13. If doing a conventional simulation, processes the exposed film using correct darkroom technique. ______________

14. Evaluates the radiographs, checking for radiographic technique, correct localization of treatment fields, and proper identification/documentation on the film; i.e., patient name, date, LT/RT side of patient, etc. ______________

15. Has radiographs approved by the appropriate individual. ______________

16. If corrections must be made after the first set of radiographs have been evaluated, performs those corrections accurately, repeats the radiographs, documenting the correction. ______________

17. If performing a conventional simulation, accurately records the SSD's/SAD's, separations, and contours as needed for dosimetry and treatment set-up. ______________

18. If performing a CT simulation, sets up patient in scanning position, program the scanner for the appropriate scout films, number of slices, and slice thickness, and scan the patient. ______________

19. If performing a CT simulation, performs the virtual simulation (with assistance) using the computer parameters, place the central axis correctly, and mark the patient. ______________

20. Records the patient position through the use of photographs, either digital or Polaroid. ______________

21. Documents pertinent positioning information and other necessary measurements received through either CT or conventional simulation in correct area of the patient's treatment chart. If necessary, verbally demonstrate knowledge of process. ______________

22. Demonstrates or verbally indicates knowledge of the billing process for the simulation, including any immobilization or bolus construction. _______ _______
23. Provides necessary information to be used in the fabrication of custom blocks. __________

24. Instructs the patient on the care of any marks, educate patient on skin care of treatment area, inform patient of return appointments to begin treatment/any other special instructions, and answer any question/concerns the patient may have. __________

25. Fabricates any special bolus. __________

26. If custom blocking is used with cerrobend blocks, correctly prepares the blocks. If custom blocking is done with the use of MLC, digitizes the parameters into the computer. __________

27. Demonstrates or verbally indicates knowledge of the billing for the construction of custom blocks. ______________
University of Alabama at Birmingham
Radiation Therapy Program
Comprehensive Clinical Training Competency: Dosimetry

Student Name: ____________________ Cancer Category: ______________

Type of Treatment Plan: Instructions for evaluation:
Place a P for PASS, F for FAIL or NA for NOT APPLICABLE beside the skill. The
student must have a 90% PASS for the competency.

The clinical instructor doing the evaluation must initial after each skill.
Attach a copy of the treatment plan and hand calculations.

The student successfully completed the treatment planning section of the Comprehensive
Clinical Training Competency by performing the following skills:

1. Identify the tumor volume and target volume. ______________
2. Select appropriate field parameters for treatment technique required. ______
3. If MLC to be used, digitize appropriate information for treatment fields into the
   computer. _____________
4. Obtain and evaluate isotope distribution. ______________
5. Create an appropriate computer plan. ______________
6. Calculate the number of monitor units/exposure time for each field to achieve the
   prescribed dose. _______________
7. Identify tolerance doses to critical structures. ______________
8. Perform a back-up hand calculation to check for accuracy. ______________
9. Record the treatment factors used in the calculation of monitor units/exposure time into
   the treatment chart to allow checking of calculations for correctness.

Student Signature: ________________________________ Date: ____________

# PASS: ___________

# FAIL: ___________

Percentage PASS: _______
Student Name: ________________________________________________

Cancer Category: ________________________________

Instructions for Evaluation:

Place a P for PASS, F for FAIL or NA for NOT APPLICABLE beside the skill. The student must have a 90% PASS for the competency.

The clinical instructor evaluating the student must initial after each skill.

The student successfully completed the treatment section of the Comprehensive Clinical Training Competency by performing the following skills:

1. Locates chart and films prior to first treatment; sets up room and uses an organized approach to the first treatment. ________

2. Examines the chart prior to treatment delivery and checks all parameters for accuracy against the prescription. ________

3. Identifies patient by armband, photographs, and/or other methods of identification.

4. Introduces self to patient, explains the process for the first day, and answers questions to gain cooperation and emotional support. ________

5. Follows correct isolation techniques if treating patient on isolation or reverse isolation restrictions to provide effective infection control. If not, verbally demonstrates knowledge of these techniques. ________

6. Uses proper body mechanics to avoid injury to self and to patient when assisting patient onto and off of the treatment table. ________

7. If patient has an IV, oxygen tank and tubing, or other accessory medical devices, monitors that equipment to avoid injury to the patient during the treatment. If not, verbally indicates knowledge of use. ________

8. Positions the patient on the treatment table according to chart set-up instructions, using proper orientation to gantry. ________

9. Uses correct immobilization devices and positioning aids according to treatment set-up instructions. ________
8. Positions treatment machine and auxiliary devices to reproduce set-up indicated by the approved treatment plan.

9. Sets appropriate controls on treatment machine console and activates machine to deliver prescribed treatment indicated on treatment plan.

10. Monitors patient both visually and by intercommunication system to insure patient's safety and accuracy of treatment.

11. Takes appropriate port films for documentation on first day of treatment; has appropriate individual approve films before first treatment.

12. If corrections must be made from initial port films, makes those corrections and repeats the port films documenting the change.

13. Monitors console of treatment machine for malfunctioning of equipment during treatment; verbally demonstrates knowledge of procedure to follow if a malfunction occurs during treatment.

14. Records treatment parameters and other relevant information in patient's chart at the conclusion of treatment.

15. Escorts patient from room, answering any questions about the treatment, and explaining care of marks, skin, etc. for course of treatment.

17. Discusses nutritional needs, possible side effects, and special medication needs with patient.

18. Sets up daily treatment appointment.

19. Cleans, washes, and disinfects equipment, disposes of any contaminated items before the next patient.

Signatures of Initialing Therapists:

___________________________________________________________________________
___________________________________________________________________________

Student Signature: _____ Date: _________________ # PASS: _____ # FAIL: _____
University of Alabama at Birmingham  
Radiation Therapy Program  
STUDENT EVALUATION OF THE CLINICAL SITE

Course # & Title: __________________________  Semester: Spring/Summer/Fa120 ______.
Clinical Site:

If you rotated through more than one clinical site, please fill out a form for each site. Write any additional comments on the back of the form.

5= Strongly Agree 4= Agree 3= Uncertain 2= Disagree 1= Strongly Disagree 0= Not Applicable

Using the above scale, rate the following characteristics:

1. The grading criterion of the course was clear to me.
2. I was adequately supervised while performing selected tasks.
3. I was allowed to participate in a learning capacity in the area of my rotation(s).
4. The clinical instructors treated me with respect.
5. I had frequent feedback from my clinical instructor(s).
6. The clinical instructor(s) helped me apply theory to solve problem(s).
7. I felt free to ask questions or express my opinions to the clinical instructor(s).
8. The clinical instructor(s) dealt fairly and impartially with me.
9. The clinical instructor(s) were readily available when I had problems.
10. The clinical instructor(s) demonstrated a professional attitude.
11. I had frequent contact with my clinical supervisor.
12. I felt that I could go to my clinical supervisor if I was having a problem in the clinic.
13. I feel that, as a result of this clinical rotation, my grasp of the fundamentals of radiation therapy has been increased.
14. I feel that, as a result of this clinical rotation, my technical skill level has increased.

Student: ___________________________  Date: ______________________

(Additional comments on back)