

Radiologic Sciences Clinical Handbook

Radiation Therapy Specialization

RAD 410-10 Radiation Therapy Clinical Internship I

RAD 420-2 Special Problems in Radiation Therapy

RAD 430-4 Radiation Therapy Clinical Internship II

RAD 440-2 Seminar in Radiation Therapy

Southern Illinois University Carbondale

Spring Session

Semester Classes Begin	Monday, January 13
Martin Luther King, Jr.'s Birthday Holiday	Monday, January 20
Spring Vacation	Saturday, March 8, 12:00 Noon - Sunday, March 16 (Use to make up time)
Honor's Day	Saturday, April 12
Final Examination Week	Monday - Friday, May 5 – 9 (Use to make up time)
Commencement	Saturday, May 10

Summer Session

Eight Week Session Begins	Monday, June 2, (this is one week before the regular SIUC semester)
Juneteenth Holiday	Thursday, June 19
Independence Day Holliday	Friday, July 4
Make-Up Week	Monday, July 21 – Friday, July 25
Review Week at SIU	Monday, July 28 - Friday, Aug. 1

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Current Records (N-Z) (618) 453-2993

Transcript Request: (618) 453-2976 OR 453-3109

Financial Aid: (618) 453-4334

Student Health Program: (618) 536-2391

PROFESSIONAL:

American Society of Radiologic Technologists (ASRT)
1500 Central Avenue SE
Albuquerque, NM 87123-3917
Ph: (800) 444-2778 or (505) 298-4500

American Registry of Radiologic Technologists (ARRT)
1225 Northland Drive
St. Paul, MN 55120-1155
Ph.: (651) 687-0048

JRCERT www.jrcert.org
20 N. Wacker Drive
Suite 2850
Chicago, IL 60606-3182
Phone: (312) 704-5300
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CHAPTER 1 GENERAL INFORMATION

WELCOME

The program is designed to help you develop the knowledge and skills required to perform in specialty area of Radiation Therapy. Many subtle qualities besides knowledge and skills are required to complete the program successfully. An important personal quality that will be closely evaluated throughout your training is your ability to relate with the patient by providing both physical and emotional support. Another area to be evaluated is your ability to work as part of a team and interact successfully with department and hospital personnel. Weaknesses spotted in any area of performance will be expected to be resolved promptly. Counseling will be arranged if problems are significant.

The Radiologic Sciences faculty wish you success in the program. We are here to assist you in pursuing your newly chosen profession.

PURPOSE OF HANDBOOK

This handbook is designed to serve as an informational guide to assist in the orientation of students to the Radiation Therapy Clinical experience. General information that applies to all students in the Bachelor of Science in Radiologic Sciences Program is also provided in this handbook. This handbook is to be read and adhered to.

Upon graduation mail in eligibility form and schedule to take the National Registry at any testing center within 3 months of eligibility.

SOUTHERN ILLINOIS UNIVERSITY FOCUS STATEMENT

Southern Illinois University Carbondale offers a full range of baccalaureate programs, is committed to graduate education through the doctoral degree, and gives high priority to research. It receives substantial federal support for research and development and annually awards a significant number of doctoral degrees balanced among selected liberal arts and sciences

disciplines and professional programs. In addition to pursuing statewide goals and priorities,

Southern Illinois University Carbondale:

- *strives to develop the professional, social, and leadership skills expected of college students and to improve student retention and achievement;
- *supports the economic, social, and cultural development of southern Illinois through appropriate undergraduate, graduate, and professional education and research;
- *develops partnerships with communities, businesses, and other colleges and universities, and develops utilization of telecommunications technologies;
- *cultivates and sustains a commitment in research and instruction to problems and policy issues related to the region and the state's natural resources and environment;
- *strives to meet the health care needs of central and southern Illinois through appropriate health-related programs, services, and public health policy; and
- *cultivates and sustains diversity through a commitment to multiculturalism, including international programming.

MISSION STATEMENT OF THE COLLEGE OF APPLIED SCIENCES AND ARTS

The College of Applied Sciences and Arts seeks to inspire and cultivate vision through personal involvement of students with faculty toward achieving technical expertise for success in a diverse and changing society.

RADIOLOGIC SCIENCES PROGRAM MISSION STATEMENT

The faculty and staff of the Radiologic Sciences Program provide students the opportunity and resources to enable them to obtain entry-level competencies, recognizing individual differences and needs. We provide an environment that enhances critical thinking, professional behaviors and life-long learning for the benefit of students, community and the profession. To meet this Mission, the goals of the Radiologic Sciences program are:

1. To provide the students with a course of study which will enable them to qualify to take the American Registry Examination in Radiography, and the advanced modalities.
2. To provide the Southern Illinois area health care facilities with a continual source of qualified radiographers and radiation therapists.

3. To provide the student with accurate information concerning employment opportunities.
4. To continually evaluate and modify curriculum requirements to comply with the *Standards* as defined by accrediting agencies specifically responsible for radiography programs and Southern Illinois University Carbondale in general.
5. To insure that all applicants have an equal opportunity to be accepted into the program.
6. To insure that all students have an equal opportunity to succeed when enrolled in the program.

Radiation Therapy Program Mission

The mission of the Radiation Therapy Program offered by Southern Illinois University Carbondale (SIUC) is to provide a quality program integrating education, research and service in order to meet the needs of the profession and improve health care of the people and communities we serve.

Program Goals

Prepare the student to practice as an entry level professional Radiation Therapist by offering a comprehensive curriculum and quality didactic/clinical instruction.

1. Prepare the student to practice as a competent entry level professional Medical Dosimetrist by offering a comprehensive curriculum and quality didactic/clinical instruction. (i.e. Clinical Competency)
2. Provide avenues for students to develop and apply skills in effective communication necessary for successful medical dosimetry practice. (i.e. Communication)
3. Provide avenues for students to develop and apply skills in critical thinking and problem-solving necessary for successful medical dosimetry practice. (i.e. Critical Thinking)

CHAPTER 2 PROFESSIONAL BEHAVIOR

GENERAL STATEMENT

The demeanor of the ideal student therapist should be such that the patient's confidence is inspired. Only a consistent professional attitude can accomplish this. One must endeavor to treat patients with kindness and courtesy and insure preservation of the patient's privacy and safety. With respect to the latter, after the patient has been placed in a room the door should be kept closed and care must be exercised to keep the patient covered at all times. Always introduce yourself to the patient and any additional people in the room; wear your name tag at all times.

STEPS IN PROFESSIONAL BEHAVIOR

1. Always knock prior to entering any room.
2. Do not congregate in areas where the patients are waiting for radiation procedures. Patients do not understand the presence of apparently idle therapists. The patient may feel he/she is being kept waiting unnecessarily.
3. Never discuss a patient's history or information on reports with them or their relatives. Patient charts and all other patient records should be kept out of the reach of unauthorized persons including patients. If they request this information, tell them it must be given to them by their physician.
4. Do not discuss matters pertaining to work in any areas where the patient may be present.
5. No conversation should take place within a patient's hearing which is not directly intended for their ears.
6. Drinking coffee or any other beverage and smoking is prohibited around patients. Smoking is permitted only in designated smoking areas.
7. Gum chewing and food consumption is prohibited in the presence of patients.
8. Treat each therapist, doctors (radiation oncologists as well as other specialists), and other health professionals with the respect due their profession. Under no circumstances are students to address members of the medical staff as anything other than "doctor" while in clinical settings.

9. Do not become involved in arguments with any member of the professional staff regarding procedures or routines of the Department of Radiation Oncology. Any differences of opinion with any doctors or health professionals should be referred immediately to the supervising therapist.
10. Smoking, drinking, and eating should only occur in the designated areas and never within sight of a patient.
11. When answering the phone in the clinical areas, answer in the following manner: "Radiation Oncology. Your name, May I help you?"
12. While walking in the hallways of the hospital, if you see a visitor who seems lost or wandering, stop and inquire if you may direct them.

ACQUIRING AND PREPARING THE PATIENT FOR THE PROCEDURE

1. Meet the patient in the waiting room, using the desirable introductory terminology: Mr., Mrs. Miss/Ms. If the patient is your age or younger, you may use his/her first name.
2. Introduce yourself to the patient.
3. Using "layman's" terms, explain the procedure.
4. Explain the patient's role during the procedure by explaining what he/she will be expected to do. Example: being placed in the necessary positions and holding still during the procedure.
5. Proceed with the procedure.
6. Prior to each exposure, caution the patient to hold still. Watch throughout the procedure to be certain no movement has occurred.
7. After the procedure is complete, escort the patient to the waiting room.

Professional Organization

In order to keep abreast of new developments and maintain a high degree of professionalism, the Radiation Therapist is strongly urged to become active in his/her professional societies and organizations.

Student membership in the professional organizations is offered at affordable rates. Applications for the following professional organizations are available from their respective web sites. The Illinois State Society of Radiologic Technologists Student Membership, available at: <http://www.issrt.org/mc/page.do>

The American Society of Radiologic Technologists Student Membership information is available at www.asrt.org.

Career Mobility

Baccalaureate Degree graduates are prepared for employment in hospitals, medical centers, industry, physician’s offices, and public health. Graduates may also be qualified for administration of Radiation Oncology departments or to assist in medical research.

Program graduates are not guaranteed job placement, but reasonable effort is made to assist them in finding a position. Radiologic Technologists and Radiation Therapist are in demand in many areas of the United States.

Many avenues for advancement within the field are available, depending on personal interests and ability. Additional education may be necessary.

These are as follows:

	<u>Hospital- Based Certificate</u>	<u>Associate Degree</u>	<u>Baccalaureate Degree</u>	<u>Masters Degree</u>	<u>Doctorate Degree</u>
Staff Technologist	X	X	X		
Special Procedures Technologist	X	X	X		
Radiation Therapists	X	X	X		
Chief Therapist or Supervisor	X	X	X	X	
Instructor	*	*	X	X	X
Program Director			X	X	X
Department Administrator	*	*	*	X	X

* This is dependent upon years of experience.

CHAPTER 3 CLINICAL EDUCATION

CLINICAL EDUCATION

The clinical education received in this program provides the student with the necessary clinical background in the manipulation of equipment, handling of all types of patients, treatment simulation and the actual treatment of oncology patients. All areas of these basic skills must be mastered before the student can successfully complete the program and be eligible to be certified by the American Registry of Radiologic Technologists in the specialty area of Radiation Therapy and licensed by the Illinois Emergency Management Agency, Division of Nuclear Safety.

During this specialization program, the student must rotate through the following clinical assignments for the length of time prescribed by the Program Director, Clinical Coordinator and/or Clinical Instructors: **[Please post a Clinical Rotation Schedule to Desire2Learn by the end of the first week]**

	<u>Suggested Amount of Time</u>	
	<u>Spring (15 wks)</u>	<u>Summer (7 wks)</u>
1. Reception, filing, scheduling, nursing, and block cutting-	1 week (float)	Float
2. Simulator-	5 weeks	3 weeks
3. Dosimetry/Treatment Planning-	3 weeks	1 week
4. Treatment administration-	6 weeks	3 weeks
5. Participate in morning check-outs of liner accelerator-	5 weeks	3 weeks
6. Participate in monthly QA's with Physicist-	2 times	1 time

*Items 1-6 times may be combined if student is doing both rotations at your facility.

Please allow students to float to other areas when their clinical rotation is slow or when there is an interesting case being performed within the department. For smaller facilities, please allow students to float into the simulator for each sim during the semester since that area does not have a steady schedule.

Clinical Hours

A certain number of clinical hours are required for each specialty area. These are cumulative hours and if a student does not complete these hours during the allotted time she/he may be put on Radiologic Sciences Program Probation with the possibility of dismissal from the Program. Individual consideration will be given to the student with a valid excuse after consultation with the Clinical Instructor and designated SIUC faculty. (38 hours per week)

Student Evaluation of Clinical Experience

At the end of the clinical course the student is required to complete an evaluation of the respective clinical experience. This is an opportunity for the student to provide an evaluation of her/his clinical experiences. Through candid evaluations, the faculty can identify the strengths and weaknesses of a particular clinical affiliate and utilize this information for continuing program evaluation. Another area where this information is useful is in matching student's clinical experience weaknesses with affiliates that rate high in providing clinical experiences that address a student's weaknesses.

CLINICAL EDUCATION REQUIREMENTS

Clinical Education Requirements are designed to help the student learn to adjust to the policies and procedure of the professional work force.

Rules

1. Prompt attendance in all clinical assignments must be maintained.
2. The student must rotate through all clinical assignments and gain working knowledge of the equipment and procedures performed.
3. If time is missed from clinic, the student must have all time made up **before the end of the current semester**. If a prolonged illness or injury occurs which would not allow a student to make up the time prior to the end of the current semester, SIU's "Incomplete" policy will be followed.
4. The student must satisfactorily complete all clinic competency objectives on or before the required deadlines of the semester.

5. The required number of clinical evaluations, time sheets, and completed clinical objectives must be turned in by the deadline date of the semester.
6. The student must satisfactorily complete rotations through all areas of the Radiation Oncology department.
7. The students must demonstrate compassion and professional conduct at all times while working with patients.
8. The student must communicate properly with patients.
9. The student must be able to communicate and work with fellow students and therapists.
10. Professional conduct and dress will be exhibited by the student at all times while assigned to the clinical area.
11. The student must be able to cope and function during stressful situations.
12. The student must complete the required competencies within the specified time and is expected to retain proficiency.
13. Students will not be permitted in the clinical area except during their scheduled hours. This means students are not to come to clinical during their time off unless approved by their Clinical Instructor.

Any infraction of the above rules will result in the necessary disciplinary actions. The student must display professional behavior at all times.

Each student must demonstrate proof of personal health/ medical insurance prior to attending their clinical rotation. They must also have a current TB test and CPR certification on file along with a criminal background check and recent drug test. A COVID test may also be required by the facility. A statement indicating an understanding of all handbook policies must also be signed. These items will be posted to Desire2Learn.

During the clinical rotation, students are assigned to an affiliate hospital/oncology center for **38 hours every week**. They will be predominantly dayshift hours. The dayshift hours vary at each institution, so students should check working hours in advance of their first day assignment. Students may not exceed 38 hours per week unless it is voluntary to make-up missed time. Students may not “bank” hours in advance to take days off.

HOUSING CONSIDERATIONS

Students in the Radiation Therapy specialization of the Radiologic Sciences program sequence who are "off-campus" during their clinic rotations have several decisions to consider regarding housing.

Housing Arrangements:

1. If you utilize University Housing during "on-campus" semesters, you must contact the Housing Contract Supervisor in advance of your "intent to vacate" and your reasons for vacating. (Contact University Housing, at 453-2301.)
2. You must submit to the Housing Contract Supervisor a completed copy of the memo developed by ASA Radiologic Sciences for the purpose of vacating.
3. You must follow the instructions given you for vacating so that you are not assessed any additional charges.

Off-Campus Arrangements:

The Radiologic Sciences staff will assist you with off-campus housing where possible.

Ultimately, however, you are responsible for your own arrangements.

POLICY MANUAL

While at clinic, the student is required to read the Radiation Therapy Department Policy Manual during the first week of their rotation and submit it along with their orientation form.

GOALS AND ASSESSMENT FOR EACH CLINICAL ROTATION

Goals of each rotation

Nursing

Student will perform basic patient care procedures to include CPR, vital signs, oxygen administration, and the transfer of patients.

Conventional Simulation and CT Simulation

Student will perform early planning for patient's treatment by constructing immobilization devices, obtaining measurements, directing isocenter, setting treatment field boundaries, producing radiographs, and acquiring CT study set.

Dosimetry

Student will evaluate patient's case, consider physician's prescription, delineate normal structures from CT images, utilize virtual simulation, optimize a plan for treatment, discuss plan with Dosimetrist, Physician, Physicist, and Radiation Therapist, document patient's set-up and plan, use patient measurements and set-up parameters to calculate fields for treatment, enter set-up and dose into the treatment verification computer system.

Treatment Aids (Block Room)

Student will produce treatment aids for patient's treatment by constructing field-shaping blocks, digitizing multileaf collimated fields (MLC), transferring MLCs to the treatment machines using file transfer network. The student will also construct bolus materials and compensating filters.

Linear Accelerator

Student will perform daily treatment procedures utilizing various treatment machines. Students will setup patients, program the treatment machine, and treat the patients. He/she will also utilize record and verify systems if applicable.

Quality Assurance

Student will perform and document daily, monthly and annual (if available) quality assurance procedures on linear accelerators to include mechanical checks, output checks, calibration

measurements, and laser checks. Student must participate in two monthly QA's of the linear accelerator and two for the simulator with a medical physicist.

Assessment methods during clinical rotations

Objectives

Student uses objectives as a guide during his/her clinical practicum. These are listed in the competency evaluation forms.

Competencies

Student will complete practicum-related competencies as described by the objectives, throughout his/her clinical rotation. Students should inform his/her clinical instructor when they are ready to complete a specific competency.

Written Journal

Student writes experiences, thoughts, and questions related to his/her current clinical practicum. The student will submit this journal to the program director for review once per week.

CHAPTER 4 CLINICAL POLICIES

ATTENDANCE POLICY

During this semester, there are scheduled clinical days. **All absences must be made up during either spring break or final's week.** A make-up schedule will be determined by the Clinical Instructor in conference with the University staff. The only exceptions to this will be made at the Clinical Instructor's discretion.

Any student missing five days will have their grade lowered one letter grade. **If six days are missed, the grade will be lowered two letter grades and the student may be dismissed from the program.** If a student is absent for three or more consecutive days due to illness, it is required that he/she obtain a statement from his/her personal physician attesting to the student's illness or injury, and his/her fitness to return to classes and clinical patient contact.

If extenuating circumstances are involved, a committee comprised of clinical and SIUC faculty will review the situation and make any recommendations.

The student is expected to report to the clinical facility at the designated time. Tardiness is not considered responsible, professional behavior. Three late arrivals, each in excess of 10 minutes, will be considered the equivalent of one absence for grade determination.

It is the student's responsibility to call the Clinical Instructor within 30 minutes **prior** of the beginning of the clinical time period if you are not going to be present or if you are going to be late. Failure to do this will result in two points being deducted from the final clinical grade average for each infraction.

The following table summarizes the responsibilities of the student, Clinical Instructor and university faculty as they relate toward tardiness and absences from a clinical site.

PARTICIPANT	ACTION-RESPONSIBILITY
Student	<ol style="list-style-type: none"> 1. Tardiness: <ol style="list-style-type: none"> a. Notifies Clinical Instructor as to late arrival within 30 minutes from start of scheduled day shift. b. Reports to Clinical Instructor upon arrival in clinic area. c. Makes up time at end of day shift 2. Illness, Prolonged Illness or Injury: <ol style="list-style-type: none"> a. Notifies Clinical Instructor as soon as possible of illness/injury. b. Calls daily to notify Clinical Instructor of prolonged absence. c. Keeps Clinical Instructor informed of progress. d. Notifies Clinical Instructor if taking any medication that will alter total performance/behavior. e. Schedules make up time as soon as health allows.
Clinical Instructor	<ol style="list-style-type: none"> 1. Documents all tardies/absences on student time sheet. 2. Keeps student informed of time to be made up. 3. Counsels and advises students. 4. If necessary, assigns student to noncritical areas. 5. Keeps University faculty informed of student status or of potential problems.
University Faculty	<ol style="list-style-type: none"> 1. Reviews all records. 2. Advises Clinical Instructor. 3. When necessary, counsels and advises students. 4. Makes final decisions concerning extended/prolonged absences. 5. Makes final decisions concerning disciplinary actions for habitual tardiness.

Inclement Weather Policy

Due to the recent increase in snow falling in the southern Illinois region, the following guidelines are proposed to assist you in determining student attendance procedures.

If bad weather (snow, ice, flooding, tornado, earthquake, etc.) occurs on a clinical day, the student is responsible for finding out if the local university in the clinical site area is closed. **This reference site must be coordinated with your clinical instructor the first week of clinical.** If they are closed due to hazardous road conditions, then the student is excused from going to clinical even

though SIUC may be open. The student must write “Snow Day” on his/her Time Sheet, and this absence will be verified by the Clinical Supervisor. If the local university is open but the student cannot get to his/her clinical site, then he/she must make up the day.

Please note: All unexcused “snow days” must be made-up. If the public elementary schools are closed due to temperature extremes (frigid cold, oppressive heat, etc.) the student is still expected to go to clinical as originally scheduled.

Request for Time-Off

Students requesting time off for personal reasons must present this request to the Clinical Instructor **at least two weeks in advance**. If granted, students must arrange and schedule "make-up" time with the Clinical Instructor prior to the leave.

All jury duty time must be made up. All time off taken to meet training requirements for any military service (Reserves, ROTC, etc.) must be made up.

Attendance will be required for special field trips, observations or seminars. Any hours of absence will be treated as course hours missed.

Students are advised to schedule medical, dental and other appointments outside of class clinic hours to avoid penalty.

Students with children are advised to have contingency arrangements made for childcare in case of illness or other unforeseen circumstance.

UNIVERSITY HOLIDAYS

All students will follow the holiday schedule for Southern Illinois University Carbondale as printed in the official bulletin. Clinical Instructors may use their discretion on hospital holidays that are not observed by SIUC.

TRANSPORTATION

Students are responsible for transportation to and from school and the clinical facilities. Students may park only in designated areas, both at the University and clinical sites.

EMPLOYMENT

Due to the concentrated and intensified nature of the Radiologic Sciences Program, full-time employment is not recommended. If a student must accept employment, this implies that the student will:

1. Not accept employment hours which conflict with class/clinical time. Students will be counseled not to work if grades warrant concern.
2. Not work more than 20-25 hours per week.

DRESS CODE

1. All clothing and jewelry must be consistent with professional/business dress standards applicable to the work responsibilities involved, and must be appropriate for reasonably anticipated public contact. The minimum should be SIUC Radiologic Science Polo Shirt with lab coat and nice dress pants with dark colored shoes, (no open toe shoes). Clean.
2. All students must wear the SIU student name badge each clinical day. For facilities that supply the student with a separate badge, the identification badge must be worn so that the picture, name and department are easily visible at all times.
3. Hair, including beards and mustaches, is to be clean, neatly groomed, and kept in such a way as not to interfere with student duties or safety. Hair that is longer than the collar on males, or longer than the shoulder on females, is to be pulled back and fastened to prevent contamination and to decrease the spread of microorganisms such as pseudomonas and staphylococcus.
4. Make up, perfume and cologne are to be moderately applied.
5. Fingernails are to be clean, trimmed, and extend no further than 1/4" beyond fingertips. Clear or conservative light-colored nail polish may be worn.

DISABILITY, ILLNESS, PREGNANCY

The Program Faculty will work with SIU's Disability Office to determine if a student may continue

the Program should illness or disability arise. The decision will be made on an individual basis, taking into account the nature and degree of the disability, as well as a physician's recommendation that the student may continue the program.

DUE PROCESS AND GRIEVANCE PROCESS

The Radiation Therapy Program Director must address issues in which the student fails to follow radiation therapy program curriculum guidelines or university policies.

If issue is related to curriculum or clinical policy,

- Program Director determines necessary course of action and presents to student.
- If student wishes to appeal the Program Director's decision, the student may contact the Director of the School of Allied at 618-453-8860. The Grievance procedures that will be followed are for the College of Applied Sciences and Arts. These procedures are listed on page 78 of this handbook.
- The University Grievance Procedure is outlined in SIUC's Undergraduate Catalog.

All accreditation standards are listed on the JRCERT website. If the student wishes to contact the Joint Review Committee Education in Radiologic Technology (JRCERT) regarding a situation they may do so with the following information:

JRCERT www.jrcert.org
20 N. Wacker Drive
Suite 2850
Chicago, IL 60606-3182
Phone: (312) 704-5300
Fax: (312) 704-5304
E-mail: mail@jrcert.org

RADIATION SAFETY POLICY

Each student will be provided a personal dose monitor and these will be exchanged on a quarterly basis. These will be available for on campus labs and off campus clinical rotations. All dose reports will be posted to Desire2Learn for student review. If a dose reading exceeds normal limits (≥ 0.125 Rem or ≥ 1.25 mSv per quarter) the student will be contacted by SIUC's RSO or the program personnel. In the event a student receives an exposure while at clinic, they should contact the radiation therapy faculty explaining the event. All radiation safety training manuals and policies are located on Desire2Learn for student review. The RSO will contact program faculty if a reading is outside normal limits.

When new badges are sent, your old badge must be returned to Landauer. If these are not returned promptly, a **late fee** is assessed by Landauer and this will be passed on to the student. **All late fees must be paid prior to graduation.** The return address is below.

Landauer Inc.
2 Science Road
Glenwood, IL 60425-1586

DIRECT SUPERVISION POLICY

All procedures performed by a student while at clinical must be directly supervised by a qualified practitioner. This individual will review the procedure in relation to the student's achievement, evaluates the condition of the patient in relation to the student's knowledge, is present during the procedure, and reviews and approves the procedure.

WORKPLACE HAZARDS, HARRASSMENT, COMMUNICABLE DISEASES, AND SUBSTANCE ABUSE

In the event that a student is concerned with workplace hazards, harassment, communicable diseases, or substance abuse, he/she should contact the Program Director or faculty immediately. The Program Director will work with the facility to ensure the safety of the student.

GENERAL INFORMATION

For information about admission policies, transfer credit, tuition and fees, refund policies, academic calendars, academic policies, graduation requirements, and student services please see SIUC's website at www.siu.edu . All grading policies are available on each course syllabus.

**CHAPTER 5
CLINICAL PAPERWORK**

CLINICAL GRADING POLICIES

The final grade in RAD 410 & RAD 430 will be determined as follows:

Growth Evaluations 50%

- RAD 410 - Based upon 4th , 7th , 10th, and 15th week **Personal/Professional Growth Evaluations** found on page 22 of this Handbook
- RAD 430 - Based upon 4th , and 7th week **Personal/Professional Growth Evaluations** found on page 22 of this Handbook

If a student receives two or more Growth Evaluations that are below an 80% during one semester; their continuation in the Radiation Therapy Program is at the discretion of the Program Director and Clinical Instructor. It is expected that all students consistently show progress in the development of their radiation therapy skills and always demonstrate a positive attitude. A grade of an “F” will be given for the semester in which the student is removed from the program.

Completion of Clinical Competency Forms 30%

Must have one sheet per competency and complete **all comps the spring semester**. Half the required competencies for each category must be completed for the summer semester.

All failed competency attempts must be turned in! If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

For grading purposes, passing a competency on the second attempt, student will receive ½ credit; if passed on the third attempt, student will receive ¼ credit; if passed on the fourth attempt, student will receive 0 credit but will be required to have the competency.

Normal progress in all semesters must be demonstrated to continue on in the program. To achieve normal progress in the Spring semester a student must have 4 successful competencies by the end of week four and 12 successful competencies by the end of week eight. For the Summer semester a student must have completed 7 successful competencies by the end of week four.

Student Clinical Evaluation 15%

Based upon completion of all sections of evaluation found on pages 51-57 of this Handbook

Journal5%

Must make a weekly log and state how their clinical rotation is going and what new information was learned during the week. Post this “word” document every Friday to the Desire2Learn server. No late journal assignments will be accepted.

The grading scale for RAD 410 and RAD 430 is:

93 - 100 = A — Exceptionally high achievement

85 - 92 = B — Satisfactory achievement

77 - 84 = C — Unsatisfactory achievement - removed from program

70 - 76 = D — Unsatisfactory achievement - removed from program

Below 70 = F — Unsatisfactory achievement - removed from program

Any competency (performance standards), not completed will result in a semester grade of an “F”. Therefore, the student will not successfully graduate from the program.

If a student is removed from a clinical site for behavioral reasons, they must leave immediately and will not be allowed to continue the Radiation Therapy Program. If the student is removed for poor growth evaluations, failing competencies or not making satisfactory progress, a grade of an “F” will be given for the semester they are removed.

To successfully complete the program, one must receive a “B” or better for RAD 410 or 430.

At the end of this clinical semester the student must submit the following in a 3-hole binder with title page and dividers, in order:

- 1. Four (4) Personal/Professional Growth Evaluations completed during weeks 4, 7, 10, and 15 of the Spring clinical semester. These evaluations must be completed in the 4th and 7th weeks of the Summer semester. The evaluation is found on page 23 of this Handbook**
- 2. Completed and signed Radiation Therapy Clinical competency requirements. A specific evaluation sheet must be available for each competency. This information is found on pages 24-50 of this handbook. If you do not perform certain competencies, they must be simulated on a Therapist or mannequin. Include the completed summaries on pages 24-28. File the competencies in the order they are listed on the summary sheets.**
- 3. Complete Student Clinical Evaluation found on pages 51-57 of this Handbook. (Dated and signed)**
- 4. Completed and signed Clinical Time Sheet found on page 58 of this Handbook.**
- 5. Completed Evaluation of Clinical Site found on page 59 of this Handbook.**
- 7. Completed Interview comp found on page 77 of this Handbook.**
- 8. Complete Journal document.**

PERSONAL/PROFESSIONAL GROWTH ASSESSMENT

Student: _____

Rotation: _____

Week 4, 7, 10, 15

Please assess each statement by placing the number which best describes the student’s professional and clinical performance in the space provided.

- 3 or less = Unacceptable
- 4 = Acceptable
- 5 = Excellent (consistently performs above level of expectation)

I. Demonstrates good rapport/communication skills with: - Patient - Clinical Supervisor - Department Personnel - Radiation Oncologist(s) / Physicist	
II. Demonstrates continual improvement of skills.	
III. Demonstrates a positive professional attitude.	
IV. Demonstrates ability to accept and utilize constructive criticism.	
V. Demonstrates flexibility (Willing to help out where needed).	
VI. Demonstrates initiative to assist in or perform all clinical duties and shows a desire to learn. Uses clinical time effectively and seeks out new or additional tasks.	
VII. Demonstrates good professional appearance.	
VIII. Demonstrates good attendance and punctuality- reports to assigned area on time and finalizes all work responsibilities before leaving.	
IX. Demonstrates responsible work ethic.	
X. Exercises good judgment.	
XI. Demonstrates cultural competency & respect in all professional interactions.	
XII. Does not get distracted; maintains a focused approach throughout clinical rotation.	
Total Points:	/60
Evaluator’s Comments:	
Clinical Instructor’s Signature	Date
Intern’s Comments:	
Intern’s Signature	Date

RADIATION THERAPY

CLINICAL COMPETENCY REQUIREMENTS

Candidates for certification are required to meet the Professional Requirements specified in Section 2.02 of the ARRT Rules and Regulations. This document identifies the minimum didactic and clinical competency requirements for certification reference in the Rules and Regulations. Candidates who complete a formal education program accredited by a mechanism acceptable to the ARRT will have obtained education and experience beyond the requirements specified here.

Clinical Requirements

As part of their educational program, candidates must demonstrate competence in the clinical activities identified in this document. Demonstration of clinical competence means that the program director or designee has observed the candidate performing the procedure, and that the candidate performed the procedure independently, consistently, and effectively. Candidates must demonstrate competence in the areas listed below.

- Four general patient care activities.
- Twelve simulation competencies are required by the SIUC program utilizing conventional or CT simulators and two optional simulations if completed at facility. Seven procedures are required by the ARRT.
- Seven dosimetry calculations.
- Fabrication of five beam modification devices.
- Four low-volume, high-risk procedures.
- Nineteen radiation therapy treatment procedures.
- Two QA comps for spring
- One Professional Interview Competency.
- Billing/Coding Comp and One Interview Comp.
- 56 total comps by end of spring semester; not counting optional comps if able to be completed.

All the above competencies must be completed in the spring semester, half the number for each category must be completed for the summer semester. All competency forms and checklists must be turned in at the end of the semester.

Use the following charts for tracking your clinical competency progress:

1. General Patient Care Summary

Requirement: Candidates must demonstrate competence in the patient care activities listed below. The activities should be performed on patients; however, simulation is acceptable if state or institutional regulations prohibit candidates from performing the procedures on patients.

General Patient Care	Date Completed	Competence Verified By
CPR		
Vital Signs (BP, pulse, respiration, temperature)		
O ₂ Administration		
Patient Transfer		

2. Simulation Procedures (Conventional or CT) Summary

Requirement: Candidates must demonstrate competence in treatment simulation for the anatomic regions listed below. A conventional simulator, CT simulator, or treatment machine may be used.

It is expected that the candidate will participate with appropriate personnel at one or more of the following levels of responsibility: perform, discuss, review, or observe (level of participation may depend on state or institutional requirements). All simulation procedures must be demonstrated on patients.

Important: Demonstration of competence includes considerations related to radiation safety, equipment operation, patient and equipment monitoring, patient positioning, treatment volume localization, imaging procedures and processing, record keeping, and patient management and education. Specific requirements for conventional and CT simulation are summarized below.

Conventional Simulation

- Assure that therapist and patient follow ALARA.
- Operate simulator; check lasers, ODI, field size, etc.
- Explain procedure to patient; prepare supplies needed for simulation, and monitor equipment during procedure.
- Position and immobilize patient using available tools and instrumentation as required (e.g. lasers, lead markers).
- Determine potential treatment fields from simulation films and diagnostic studies.
- Obtain contour and measurements used to make treatment plan.
- Obtain orthogonal films.
- Process exposed films.
- Record patient position and other required information (e.g. gantry angles, collimator settings).
- Demonstrate patient care as situation requires (e.g. skin care, nutrition).
- Instruct patient on maintenance of skin marks.

CT Simulation

- Assure that therapist and patient follow ALARA.
- Operate CT scanner, perform daily QC as appropriate (lasers, phantom scans, etc.).
- Explain procedure to patient; prepare supplies needed for simulation, and monitor equipment during procedure.
- Position and immobilize patient using available tools and instrumentation as required (e.g. lasers, fiducial markers).
- Perform CT scan for region of interest; participate in determining treatment fields (on film or digitally).
- Review and discuss CT scan and treatment plan with appropriate personnel.
- Utilize preset protocols or adjust imaging parameters (e.g. slice level, FOV) to obtain image.
- Mark isocenter and transmit network images to workstation.
- Record patient position and other required information (e.g. set-up, table position).
- Manage patient as situation requires, including monitoring for possible contrast reactions.
- Instruct patient on maintenance of skin marks.

Simulation Procedures	Date Completed	Competence Verified By
Brain- Palliative		
Brain- Curative		
Head and Neck		
Thorax		
Breast – Tangents only		
Breast – Prone Breast (Optional)		
Breast- Multi-port with SCV		
Abdomen		
Pelvis – i.e. GYN, Vulva		
Pelvis – i.e. Prostate, Bladder		
Skeletal - i.e. Spine		
Skeletal - i.e. Extremity		
Verification Sim w/ shifts on Linac. (Optional)		
Special Tx – (4D, SBRT, etc)		

3. Dosimetry Summary

Requirement: Candidates must demonstrate competence calculating doses for each of the following treatment setups. Calculations should be performed for actual patients; however, calculations may be completed for simulated patients if demonstration on actual patients is not feasible.

Dosimetry	Date Completed	Competence Verified By
Single, Open Field, calc		
Parallel Opposed Fields with Blocks, calc and plan		
Geometric Gap, calc		
Weighted Fields, calc and plan		
Wedge Fields, calc and plan		
Computer Generated Isodose Plan, plan 2D and 3D		
Electron Field, calc		

4. Treatment Accessory Devices Summary

Requirement: Candidates must demonstrate competence in fabricating the following types of treatment accessories. The Immobilization Device competencies are incorporated as part of the simulation competencies. Use simulation competency form for immobilization device.

Beam Modification Devices	Date Completed	Competence Verified By
Custom Block (Photon or electron) - must complete two.		
Bolus		
Custom Immobilization Device for Thorax or Abdomen/Pelvis Completed During Simulation on sim comp form (e.g. Foaming Agents, Vacuum Bags)		
Thermoplastic Mold (Completed During Simulation on sim comp form)		

5. Low-Volume, High-Risk Procedures Summary

Requirement: Candidates must demonstrate competence in the four procedures listed below. Competence may be demonstrated under simulated conditions if necessary. Demonstration of competence does not require actual delivery of treatment dose.

Low Volume, High Risk Procedures (Participatory)	Date Completed	Competence Verified By
Total Body Irradiation (TBI)		
Craniospinal		
SBRT/SRS Treatment		
Heterotopic Bone Treatment		

6. Radiation Treatment Procedures Summary

Requirement: Candidates must demonstrate competence in 19 procedures identified below. sixteen of the treatment procedures must be demonstrated on patients; three procedures may be demonstrated under simulated conditions if demonstration on patients is not feasible. Demonstration of competence does not require actual delivery of treatment dose.

Demonstration of competence includes considerations related to radiation safety, equipment operation, patient and equipment monitoring, patient positioning, treatment volume localization, dose to critical structures, imaging procedures, dose verification, record keeping, and patient management and education.

Radiation Treatment Procedure	Date Completed	Patient or Simulated	Competence Verified By
Brain			
Primary			
Metastatic			
Head and Neck			
Muti-field			
Multi-field			
Thorax			
Multi-Field (non-IMRT)			
IMRT and/or Arc			
Breast			
Tangents only			
Tangs. and SCV			
Tangs., SCV & PAB			
Special set-up (i.e. x or e boost, Prone, IMRT, Gating)			
Abdomen (not mets.)			
Multiple Fields			
IMRT and/or Arc			
Pelvis (not mets.)			
IMRT Pelvis			
Multiple fields supine			
Multiple fields prone			
Skeletal			
Multi-field Spine			
Extremity			
Electron Fields			
Single			
Abutting Fields (i.e. electron to electron or IM or Post triangles)			

7. Quality Assurance Summary

Requirement: Candidates must participate in Two monthly QA sessions (one for the linear accelerator and one for the CT simulator) during each semester. A paper must be written during the spring semester listing the test, how it is performed, tolerance and frequency of test. All tests that are listed in W/L pages 380-382 for the linac must be explained in the paper. Also, do all CT QA that is completed at your facility (you can use W/L page 379 as template).

Quality Assurance - Understands tests and tolerances conducted during a monthly QA	Date Completed	Participation Verified By
Monthly QA- Linear Accelerator		
Monthly QA- CT Simulator		

8. Brachytherapy Summary

Requirement: The ARRT strongly recommends that students observe brachytherapy procedures in the course of their clinical education. Please note students are not expected to demonstrate clinical competencies in brachytherapy to establish eligibility for ARRT certification.

Brachytherapy Procedure	Date Completed	Participation Verified By

9. Billing/Coding Summary

Requirement: Participate with your clinical instructor in billing five different patients. The student will need to understand the various codes and billing process. Please note students are not expected to demonstrate competence in billing but should gain a good understanding. To complete the requirements for this area, write a report once the five patients are complete. This should include a summary of what you learned in the process (i.e. different CPT codes and what they are used for). The report should be no less than 2.5 pages and needs to be initialed by your clinical instructor. **No paper is due for the summer semester, spring only. However, one must still perform the competency during both semesters.**

Billing/Coding Procedure	Date Completed	Participation Verified By

10. Professional Interview Competency

Requirement: During the second half of the spring semester (end of March or April) and first part of the summer semester (June or early July); the student will schedule an interview with proper department personnel. Student must email program faculty the name, title, and email address of the person willing to perform the interview and the student must have the evaluation sheet available during interview (See pg. 77 of handbook for evaluation). The student must also take a professional RT resume to this interview.

Professional Interview	Date Completed	Participation Verified By

EVALUATION GUIDELINES AND COMPETENCY FORMS

Use the forms on the following pages for competency documentation. Please include a completed form for each of the required competencies.

Spring Semester

1. General Patient Care- Four Competencies **Can be separate comp form or one comp form.**
2. Simulation- Fourteen competencies plus two optional sim comp.
3. Dosimetry- Seven competencies
4. Treatment Accessory Devices - Four competencies (total of two electron comps.)
5. Low-Volume, High-Risk procedures- Four competencies (use a treatment procedure competency form)
6. Treatment- Nineteen competencies
7. Quality Assurance- Two participation forms- 1 sim and 1 linac
8. Brachytherapy- No set number of competencies required; participation strongly encouraged.
9. Billing/Coding Procedure- One competency
10. Professional Interview- One Competency

Summer Semester

1. General Patient Care- Two competencies
2. Simulation- Seven competencies
3. Dosimetry- Four competencies
4. Treatment Accessory Devices - Two competencies
5. Low-Volume, High-Risk procedures- Two competencies (use a treatment procedure competency form)
6. Treatment- Ten competencies
7. Quality Assurance- Two participation forms- 1 sim and 1 linac
8. Brachytherapy- No set number of competencies required; participation strongly encouraged.
9. Billing/Coding Procedure- One competency
10. Professional Interview- One Competency

Make sure at the end of each semester you have at least the minimum number of required competencies. Fifty-six (not counting Brachy observation and optional sim comp.) are required for the spring semester and at least thirty-one for the summer semester.

Barnes students must complete one and a half of all the competencies for each rotation they see per semester. Not all competencies will be completed each semester due to site-specific rotations. Contact CI or Rick with questions.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY TECHNOLOGY
GENERAL PATIENT CARE EVALUATION GUIDELINES**

Does not apply: Not Applicable = N/A

Demonstrates Comprehensive Knowledge: Pass

- A. Grasps directions quickly and accurately. Displays outstanding use of judgement.
- B. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- C. Exemplary.

Demonstrates Above Average Understanding: Pass

- A. Applies and relates theory to most patient care activities.
- B. Readily uses instructions and makes decisions based upon sound judgement.
- C. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.

Demonstrates Adequate Knowledge: Pass

- A. Can usually demonstrate how essential aspects of theory relate to specific patient care situations.
- B. Rarely requires repetition of explanations or referral to instructions; demonstrates good judgement in most situations.
- C. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate notations in chart.
- D. Exhibits satisfactory patient care in most situations.

Listing Understanding: Fail

- A. Exhibits superficial understanding of the application of theory in most patient care situations.
- B. Requires re-explanation; has difficulty in making rational judgements.
- C. Is frequently careless in completing patient documentation; commits many errors or is often inaccurate and incomplete.

Inadequate Knowledge: Fail

- A. Is unaware of and cannot integrate theoretical concepts with patient care situations.
- B. Unable to follow simple directions; cannot be depended on to make sound judgements.
- C. Habitually fails to record pertinent data in chart.
- D. Is abusive and negligent to patients.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
GENERAL PATIENT CARE EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ DIAGNOSIS/STAGE: _____

TARGET DOSE & FRACTIONIZATION _____

EVALUATOR: _____

Treatment Evaluations	Evaluation			Comments
1. Properly measures patient vital signs and understands normal ranges. Blood pressure Pulse Respiration Rate Temperature	Pass	Fail	N/A	
2. Administers oxygen to patient and explains what oxygen rate is to be used and why.	Pass	Fail	N/A	
3. Demonstrates/explains the process of performing CPR.	Pass	Fail	N/A	
4. Assists with skin care and understands what solves/medications are used and why.	Pass	Fail	N/A	
5. Assists with patient transfer and understands proper body mechanics.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

All failed competency attempts must be turned in. If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY TECHNOLOGY
SIMULATION EVALUATION GUIDELINES**

Does not apply: Not Applicable = N/A

Demonstrates Comprehensive Knowledge: Pass

- A. Readily transfers theoretical knowledge to all clinical situations.
- B. Grasps directions quickly and accurately. Displays outstanding use of judgement.
- C. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- D. Exemplary competence and resourcefulness in the utilization and care of equipment and supplies.

Demonstrates Above Average Understanding: Pass

- A. Applies and relates theory to most clinical activities.
- B. Readily uses instructions and makes decisions based upon sound judgement.
- C. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.
- D. Efficiently employs equipment and supplies, giving due care to their use and maintenance.

Demonstrates Adequate Knowledge: Pass

- A. Can usually demonstrate how essential aspects of theory relate to specific clinical situations.
- B. Rarely requires repetition of explanations or referral to instructions; demonstrates good judgement in most situations.
- C. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate notations in chart.
- D. Exhibits satisfactory care and use of equipment in most situations.

Listing Understanding: Fail

- A. Exhibits superficial understanding of the application of theory in most clinical activities.
- B. Requires re-explanation; has difficulty in making rational judgements.
- C. Is frequently careless in completing chart; commits many errors or is often inaccurate and incomplete.
- D. Often inefficient in use or maintenance of equipment.

Inadequate Knowledge: Fail

- A. Is unaware of and cannot integrate theoretical concepts with practical application.
- B. Unable to follow simple directions; cannot be depended on to make sound judgements.
- C. Habitually fails to record pertinent data in chart.
- D. Is abusive, negligent and careless in use of equipment or supplies.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
SPECIFIC SITE CONVENTIONAL SIMULATOR EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ DIAGNOSIS/STAGE: _____

TARGET DOSE & FRACTIONIZATION _____

EVALUATOR: _____

Simulator Evaluations	Evaluation			Comments
1. Review chart/treatment plan prior to calling patient. (electronically or paper)	Pass	Fail	N/A	
2. Room Preparation				
Set appropriate blocking tray distance.	Pass	Fail	N/A	
Select proper positioning aids.	Pass	Fail	N/A	
Have materials available for immobilization device construction.	Pass	Fail	N/A	
3. Set appropriate SAD for gantry.	Pass	Fail	N/A	
4. Greet patient and assist to simulation room.	Pass	Fail	N/A	
5. Able to explain procedure to patient	Pass	Fail	N/A	
6. Constructs immobilization device.	Pass	Fail	N/A	
7. Properly position patient on simulator couch.	Pass	Fail	N/A	
8. Take necessary diameter.	Pass	Fail	N/A	
9. Set appropriate SSD	Pass	Fail	N/A	
10. Set proper field size from topographical landmarks.	Pass	Fail	N/A	
11. Uses fluoroscopy to set appropriate field or to place block properly.	Pass	Fail	N/A	
12. Make necessary adjustments.	Pass	Fail	N/A	
13. Mark lasers on patient.	Pass	Fail	N/A	
14. Determine and make necessary collimator or table rotations.	Pass	Fail	N/A	
15. Set proper technique.	Pass	Fail	N/A	

16. Produces images.	Pass	Fail	N/A	
17. Obtain ODI Readings for all fields.	Pass	Fail	N/A	
18. Verify diameter.	Pass	Fail	N/A	
19. Mark positioning lasers on patient.	Pass	Fail	N/A	
20. Obtain contour if needed	Pass	Fail	N/A	
21. Obtain orthogonal films if needed	Pass	Fail	N/A	
22. Record patient position and required information. (electronically or paper)	Pass	Fail	N/A	
23. Properly manipulates and monitors simulator throughout procedure.	Pass	Fail	N/A	
24. Review and discuss simulation and treatment plan with appropriate personnel.	Pass	Fail	N/A	
25. Managed patient as situation requires, including monitoring for possible contrast reactions.	Pass	Fail	N/A	
26. Ensures ALARA principles are followed for therapist and patient.	Pass	Fail	N/A	
27. Explains why the simulation was done in this manner.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

All failed competency attempts must be turned in. If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
SPECIFIC SITE CT SIMULATOR EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ DIAGNOSIS/STAGE: _____

TARGET DOSE & FRACTIONIZATION _____

EVALUATOR: _____

Simulator Evaluations	Evaluation	Comments
1. Review chart/treatment plan prior to calling patient. (electronically or paper)	Pass Fail N/A	
2. Room Preparation		
Select proper positioning aids.	Pass Fail N/A	
Have materials available for immobilization device construction.	Pass Fail N/A	
3. Greet patient and assist to treatment room.	Pass Fail N/A	
4. Able to explain procedure to patient	Pass Fail N/A	
5. Constructs immobilization devices.	Pass Fail N/A	
6. Properly position patient on simulator couch.	Pass Fail N/A	
7. Make necessary adjustments.	Pass Fail N/A	
8. Mark lasers on patient.	Pass Fail N/A	
9. Programmed correct CT protocol or adjust imaging parameters and understands why.	Pass Fail N/A	
10. Perform CT scan for region of interest.	Pass Fail N/A	
11. Participate in determining treatment fields (on film or digitally).	Pass Fail N/A	
12. Operates laser system in the CT Room to make appropriate shifts.	Pass Fail N/A	
13. Marked isocenter.	Pass Fail N/A	
14. Record patient position and required information. (electronically or paper)	Pass Fail N/A	
15. Transmits network images to workstation	Pass Fail N/A	

16. Review and discuss CT scan and treatment plan with appropriate personnel.	Pass	Fail	N/A	
17. Managed patient as situation requires, including monitoring for possible contrast reactions.	Pass	Fail	N/A	
18. Ensures ALARA principles are followed for therapist and patient.	Pass	Fail	N/A	
19. Explains why the simulation was done in this manner.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

All failed competency attempts must be turned in. If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
DOSIMETRY AND CALCULATIONS EVALUATION GUIDELINES**

Does not apply: Not Applicable = N/A

Demonstrates Comprehensive Knowledge: Pass

- A. Readily transfers theoretical knowledge to all clinical situations.
- B. Grasps directions quickly and accurately, displays outstanding use of judgement.
- C. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- D. Exemplary competence and resourcefulness in the utilization and care of equipment and supplies.

Demonstrates Above Average Understanding: Pass

- A. Applies and relates theory to most clinical activities.
- B. Readily uses instructions and makes decisions based upon sound judgement.
- C. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.
- D. Efficiently employs equipment and supplies, giving due care to their use and maintenance.

Demonstrates Adequate Knowledge: Pass

- A. Can usually demonstrate how essential aspects of theory relate to specific clinical situations.
- B. Rarely requires repetitions of explanations or referral to introductions; demonstrates good judgement in most situations.
- C. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate notations in chart.
- D. Exhibits satisfactory care and use of equipment in most situations.

Limited Understanding: Fail

- A. Exhibits superficial understanding of the application of theory in most clinical activities.
- B. Requires re-explanation; has difficulty in making rational judgements.
- C. Is frequently careless in completing chart; commits many errors or often inaccurate and incomplete.
- D. Often inefficient in use or maintenance of equipment.

Inadequate Knowledge: Fail

- A. Is unaware of and cannot integrate theoretical concepts with practical application.
- B. Unable to follow simple directions; cannot be depended on to make sound judgements.
- C. Habitually fails to record pertinent data in chart.
- D. Is abusive, negligent and careless in use of equipment or supplies.

Competency Attempt				
	1	2	3	4
Pass				Fail

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
DOSIMETRY COMPUTER GENERATED ISODOSE PLAN COMPETENCY EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ DIAGNOSIS/STAGE: _____

TARGET DOSE & FRACTIONIZATION _____

EVALUATOR: _____

Competency	Evaluation			Comments
Imaging/Conventional Simulation				
1. Describe patient position and why used.	Pass	Fail	N/A	
2. Describe immobilization devices and why used.	Pass	Fail	N/A	
3. Identify media used for Treatment Plan (CT/MRI/PET) and explain why each is used.	Pass	Fail	N/A	
Structure Identification				
4. Explain which normal structures are contoured and why.	Pass	Fail	N/A	
5. Contour normal structures and know software tools to be used.	Pass	Fail	N/A	
6. Identify type of target volume.	Pass	Fail	N/A	
7. Describe target volume margins.	Pass	Fail	N/A	
Dose Prescription				
8. State dose prescription for initial fields and boost fields.	Pass	Fail	N/A	
9. Describe the dose fractionation.	Pass	Fail	N/A	
10. Identify critical structures and max tolerance dose.	Pass	Fail	N/A	
Treatment Planning – must assist in computer entry				
11. Identify isocenter location.	Pass	Fail	N/A	
12. Describe how and why isocenter was placed in current location.	Pass	Fail	N/A	
13. Explain the beam arrangement.	Pass	Fail	N/A	
14. State energy used for each beam and explain why it was used.	Pass	Fail	N/A	

15. Identify beam modifiers and why each was used.	Pass	Fail	N/A	
16. Explain beam weights.	Pass	Fail	N/A	
17. Identify and describe any special circumstances regarding this plan/case.	Pass	Fail	N/A	
18. Discuss dose distribution.	Pass	Fail	N/A	
19. Discuss DVHs (normal and target volume).	Pass	Fail	N/A	
20. Assist in computer entry.	Pass	Fail	N/A	
Documentation				
21. Discuss differences in custom blocks and MLC with respect to transfer to the treatment machine.	Pass	Fail	N/A	
22. List all forms of documentation (electronic/paper) to complete prior to sending to treatment machine or simulator.	Pass	Fail	N/A	
Calculations				
23. Perform MU calculation by appropriate method.	Pass	Fail	N/A	
A. SAD TMR/TAR, Sc, Sp	Pass	Fail	N/A	
B. SSD PDD	Pass	Fail	N/A	
24. Explain use of factors.	Pass	Fail	N/A	
25. Performed gap calculations if needed	Pass	Fail	N/A	
26. Performed electron calculations if needed.	Pass	Fail	N/A	
Record and Verify, if applicable				
27. Discuss importance of record and verify entry.	Pass	Fail	N/A	
28. Identify information to enter into record and verify.	Pass	Fail	N/A	
29. Demonstrates overall understanding of 2D & 3D Tx planning.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

All failed competency attempts must be turned in. If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
DOSIMETRY CALCULATION COMPETENCY EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____
 SITE: _____ DIAGNOSIS/STAGE: _____
 TARGET DOSE & FRACTIONIZATION _____
 EVALUATOR: _____

Competency	Evaluation	Comments
Dose Prescription		
1. State dose prescription for initial fields and boost fields.	Pass Fail N/A	
2. Describe the dose fractionation.	Pass Fail N/A	
3. Identify critical structures and max tolerance dose.	Pass Fail N/A	
Documentation		
4. Discuss differences in custom blocks and MLC with respect to transfer to the treatment machine.	Pass Fail N/A	
5. List all forms of documentation (electronic/paper) to complete prior to sending to treatment machine or simulator.	Pass Fail N/A	
Calculations		
6. Perform MU calculation by appropriate method.	Pass Fail N/A	
A. SAD TMR/TAR, Sc, Sp	Pass Fail N/A	
B. SSD PDD	Pass Fail N/A	
7. Explain use of factors.	Pass Fail N/A	
8. Performed gap calculations if needed	Pass Fail N/A	
9. Performed electron calculations if needed.	Pass Fail N/A	
Record and Verify, if applicable		
10. Discuss importance of record and verify entry.	Pass Fail N/A	
11. Identify information to enter into record and verify.	Pass Fail N/A	

Signature of Evaluator

Signature of Student

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
TREATMENT ACCESSORY DEVICES EVALUATION GUIDELINES**

Does not apply: Not Applicable = N/A

Demonstrates Comprehensive Knowledge: Pass

- A. Grasps directions quickly and accurately, displays outstanding use of judgement.
- B. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- C. Exemplary competence and resourcefulness in the utilization and care of equipment and supplies.

Demonstrates Above Average Understanding: Pass

- A. Readily uses instructions and makes decisions based upon sound judgement.
- B. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.
- C. Efficiently employs equipment and supplies, giving due care to their use and maintenance.

Demonstrates Adequate Knowledge: Pass

- A. Rarely requires repetitions of explanations or referral to introductions; demonstrates good judgement in most situations.
- B. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate documentation.
- C. Exhibits satisfactory care and use of equipment in most situations.

Limited Understanding: Fail

- A. Requires re-explanation; has difficulty in making rational judgements.
- B. Is frequently careless in completing paperwork; commits many errors or often inaccurate and incomplete.
- C. Often inefficient in use or maintenance of equipment.

Inadequate Knowledge: Fail

- A. Unable to follow simple directions; cannot be depended on to make sound judgements.
- B. Habitually fails to record pertinent data.
- C. Is abusive, negligent and careless in use of equipment or supplies.

Competency Attempt			
1	2	3	4
Pass			Fail

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
ELECTRON CUTOOUT EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ MODIFICATION DEVICE: _____

EVALUATOR: _____

Electron Cutouts	Evaluation			Comments
1. Properly traces outline onto lucite plate from patient marks or uses appropriate DRR.	Pass	Fail	N/A	
2. Selects proper electron cone insert.	Pass	Fail	N/A	
3. Properly cuts electron field shape out of styrofoam.	Pass	Fail	N/A	
4. Properly pours cerrobend into electron applicator insert.	Pass	Fail	N/A	
5. Cutout passes verification process.	Pass	Fail	N/A	
6. Follows block room safety procedures.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

All failed competency attempts must be turned in. If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

Competency Attempt				
	1	2	3	4
Pass				Fail

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
BOLUS EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ MODIFICATION DEVICE: _____

EVALUATOR: _____

Bolus	Evaluation			Comments
1. Properly makes custom bolus to desired thickness.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

All failed competency attempts must be turned in. If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY TECHNOLOGY
TREATMENT EVALUATION GUIDELINES
NORMAL AND LOW VOLUME PROCEDURES**

Does not apply: Not Applicable = N/A

Demonstrates Comprehensive Knowledge: Pass

- A. Readily transfers theoretical knowledge to all clinical situations.
- B. Grasps directions quickly and accurately. Displays outstanding use of judgement.
- C. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- D. Exemplary competence and resourcefulness in the utilization and care of equipment and supplies.

Demonstrates Above Average Understanding: Pass

- A. Applies and relates theory to most clinical activities.
- B. Readily uses instructions and makes decisions based upon sound judgement.
- C. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.
- D. Efficiently employs equipment and supplies, giving due care to their use and maintenance.

Demonstrates Adequate Knowledge: Pass

- A. Can usually demonstrate how essential aspects of theory relate to specific clinical situations.
- B. Rarely requires repetition of explanations or referral to instructions; demonstrates good judgement in most situations.
- C. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate notations in chart.
- D. Exhibits satisfactory care and use of equipment in most situations.

Listing Understanding: Fail

- A. Exhibits superficial understanding of the application of theory in most clinical activities.
- B. Requires re-explanation; has difficulty in making rational judgements.
- C. Is frequently careless in completing chart; commits many errors or is often inaccurate and incomplete.
- D. Often inefficient in use or maintenance of equipment.

Inadequate Knowledge: Fail

- A. Is unaware of and cannot integrate theoretical concepts with practical application.
- B. Unable to follow simple directions; cannot be depended on to make sound judgements.
- C. Habitually fails to record pertinent data in chart.
- D. Is abusive, negligent and careless in use of equipment or supplies.

SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
SPECIFIC SITE TREATMENT EVALUATION
NORMAL AND LOW VOLUME PROCEDURES

Competency Attempt				
	1	2	3	4
Pass				Fail

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ DIAGNOSIS/STAGE: _____

TARGET DOSE & FRACTIONIZATION _____

EVALUATOR: _____

Treatment Evaluations	Evaluation	Comments
1. Review chart/treatment plan (electronically or paper) prior to calling patient.	Pass Fail N/A	
2. Room Preparation		
Correct treatment aids.	Pass Fail N/A	
Correct positioning.	Pass Fail N/A	
Set correct field size or operates RV system	Pass Fail N/A	
3. Greet patient and assist to treatment room.	Pass Fail N/A	
4. Demonstrates sensitivity and compassion for each patient's physical and emotional well being.	Pass Fail N/A	
5. Properly positions patient on treatment couch.	Pass Fail N/A	
6. Properly aligns patient in positioning aid.	Pass Fail N/A	
7. Make necessary collimator or table rotations.	Pass Fail N/A	
8. Make necessary adjustments.	Pass Fail N/A	
9. Set appropriate SSD.	Pass Fail N/A	
10. Set proper MU setting or operates RV system.	Pass Fail N/A	
11. Verifies all treatment parameters	Pass Fail N/A	
12. Monitors patient during treatment delivery.	Pass Fail N/A	
13. Rotate gantry for other fields.	Pass Fail N/A	
14. Marks patient for each field.	Pass Fail N/A	
15. Obtain ODI Readings for all fields	Pass Fail N/A	
16. Expose and develop port films or uses portal imaging system properly.	Pass Fail N/A	
17. Can compare treatment record with treatment plan to know when treatment changes. (electronically or paper)	Pass Fail N/A	
18. Documents treatment delivery properly. (electronically or paper)	Pass Fail N/A	

19. Interacts with members of the radiation therapy treatment team in a positive and productive manner.	Pass	Fail	N/A	
20. Maintains high ethical standards for patient treatment.	Pass	Fail	N/A	
21. Demonstrates an understanding for anatomy and physiology related to this treatment.	Pass	Fail	N/A	
22. Demonstrates and understanding of pathology related to this treatment.	Pass	Fail	N/A	
23. Demonstrates and understanding of doses to critical structures for this treatment.	Pass	Fail	N/A	
24. Identifies possible complications and side effects commonly associated for this treatment.	Pass	Fail	N/A	
25. Can explain why the treatment was done in this manner.	Pass	Fail	N/A	
26. Can describe alternative treatment procedures (IMRT, IGRT) and how they might apply to this case.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

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SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
MONTHLY QA EVALUATION GUIDELINES

Does not apply: Not Applicable (N/A)

Demonstrates Comprehensive Knowledge: Pass

- A. Grasps directions quickly and accurately, displays outstanding use of judgement.
- B. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- C. Exemplary competence and resourcefulness in the utilization and care of equipment and supplies.

Demonstrates Above Average Understanding: Pass

- A. Readily uses instructions and makes decisions based upon sound judgement.
- B. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.
- C. Efficiently employs equipment and supplies, giving due care to their use and maintenance.

Demonstrates Adequate Knowledge: Pass

- A. Rarely requires repetitions of explanations or referral to introductions; demonstrates good judgement in most situations.
- B. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate documentation.
- C. Exhibits satisfactory care and use of equipment in most situations.

Limited Understanding: Fail

- A. Requires re-explanation; has difficulty in making rational judgements.
- B. Is frequently careless in completing paperwork; commits many errors or often inaccurate and incomplete.
- C. Often inefficient in use or maintenance of equipment.

Inadequate Knowledge: Fail

- A. Unable to follow simple directions; cannot be depended on to make sound judgements.
- B. Habitually fails to record pertinent data.
- C. Is abusive, negligent and careless in use of equipment or supplies.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
MONTHLY QA EVALUATION**

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

MACHINE: _____

EVALUATOR: _____

Monthly QA Evaluation	Evaluation			Comments
1. Student had initiative and contributed to QA procedures.	Pass	Fail	N/A	
2. Student understood and asked questions about the QA procedures performed.	Pass	Fail	N/A	
3. Student could state tolerances and frequency of performance for each test.	Pass	Fail	N/A	
4. Student performed laser alignment QA on linear accelerator.	Pass	Fail	N/A	
5. Student performed laser alignment QA on CT Simulator.	Pass	Fail	N/A	
6. Student performed beam output QA on linear accelerator.	Pass	Fail	N/A	
7. Student performed beam symmetry QA on linear accelerator.	Pass	Fail	N/A	

Signature of Evaluator

Signature of Student

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**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
BRACHYTHERAPY EVALUATION GUIDELINES**

Does not apply: Not Applicable = N/A

Demonstrates Comprehensive Knowledge: Pass

- A. Readily transfers theoretical knowledge to all clinical situations.
- B. Grasps directions quickly and accurately, displays outstanding use of judgement.
- C. Maintains exceptionally complete, accurate and concise records in accordance with departmental policy and procedures.
- D. Exemplary competence and resourcefulness in the utilization and care of equipment and supplies.

Demonstrates Above Average Understanding: Pass

- A. Applies and relates theory to most clinical activities.
- B. Readily uses instructions and makes decisions based upon sound judgement.
- C. Ensures that records kept are complete and concise; recognizes and corrects any errors or deletions.
- D. Efficiently employs equipment and supplies, giving due care to their use and maintenance.

Demonstrates Adequate Knowledge: Pass

- A. Can usually demonstrate how essential aspects of theory relate to specific clinical situations.
- B. Rarely requires repetitions of explanations or referral to introductions; demonstrates good judgement in most situations.
- C. Usually maintains records which are satisfactory; occasionally makes minor errors or fails to make appropriate notations in chart.
- D. Exhibits satisfactory care and use of equipment in most situations.

Limited Understanding: Fail

- A. Exhibits superficial understanding of the application of theory in most clinical activities.
- B. Requires re-explanation; has difficulty in making rational judgements.
- C. Is frequently careless in completing chart; commits many errors or often inaccurate and incomplete.
- D. Often inefficient in use or maintenance of equipment.

Inadequate Knowledge: Fail

- A. Is unaware of and cannot integrate theoretical concepts with practical application.
- B. Unable to follow simple directions; cannot be depended on to make sound judgements.
- C. Habitually fails to record pertinent data in chart.
- D. Is abusive, negligent and careless in use of equipment or supplies.

**SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
RADIATION THERAPY
BRACHYTHERAPY PLANNING EVALUATION**

Competency Attempt			
1	2	3	4
Pass			Fail

STUDENT'S NAME: _____ DATE OF EVALUATION: _____

SITE: _____ DIAGNOSIS/STAGE: _____

TARGET DOSE & FRACTIONIZATION _____

EVALUATOR: _____

Competency	Evaluation	Comments
Films		
1. Define orthogonal films.	Pass Fail N/A	
2. Explain why orthogonal films or CT/MRI are used for brachytherapy planning.	Pass Fail N/A	
3. Determine magnification factor.	Pass Fail N/A	
Source Activity/Dwell Time and Position		
4. Identify activity and dwell time from prescription sheet.	Pass Fail N/A	
5. Discuss how activity affects planning.	Pass Fail N/A	
Source Identification		
6. Identify positioning of sources from prescription sheet.	Pass Fail N/A	
7. Identify sources on films or image data set.	Pass Fail N/A	
8. Identify HDR vs. LDR	Pass Fail N/A	
Interest Points		
9. Discuss the definition/representation of interest points.	Pass Fail N/A	
10. Identify interest points on data set.	Pass Fail N/A	
Isodose Distribution		
12. Identify different views (coronal, sagittal, transverse)	Pass Fail N/A	
13. Describe differences of dose vs. dose rate.	Pass Fail N/A	
14. Demonstrates overall understanding of Brachytherapy.	Pass Fail N/A	

Signature of Evaluator

Signature of Student

All failed competencies must be turned in.

**SOUTHERN ILLINOIS UNIVERSITY
STUDENT CLINICAL EVALUATION SYSTEM
RADIATION THERAPY TECHNOLOGY**

PERFORMANCE PLANNING GOAL:

The overall goal of the performance planning process is to recognize and acknowledge good performance and provide feedback and seek input on how to improve individual effectiveness in accomplishing program goals. This is to be completed at the end of each semester.

INSTRUCTIONS: Clinical Instructor:

Complete each section of the evaluation using the following performance definitions:

- ◆ **Meets/Exceeds Expectations:** Performance consistently meets or exceeds the established standards. The student competently performs his or her job duties and responsibilities in ways which support the success of the team and organization as a whole. Points = 2
- ◆ **Needs Improvement:** Performance does not consistently meet established standards. The student requires additional training and/or focus on this standard to achieve satisfactory performance. Points = 0
- ◆ Not applicable: Use N/A when the student is not allowed or does not have the opportunity to participate in this capacity.

SECTION 1: JOB SPECIFIC PERFORMANCE STANDARDS

Indicate the performance definition for each job specific element. Use this opportunity to provide additional positive feedback. A plan of action must be documented in the comments section for any rating of NEEDS IMPROVEMENT.

PERFORMANCE STANDARDS	PERFORMANCE ASSESSMENT	COMMENTS/ IMPROVEMENT PLAN	DATE	INSTRUCTOR'S INITIALS
Works with the Radiation Oncologist, Dosimetrist and Radiation Therapist to insure the optimal radiation treatment course through proper implementation.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Insures that all measurements and data are assessed and verified.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Administers proper treatments through regular assessment and verification.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Assesses patients daily for treatment of side effects.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Monitors all Radiation equipment daily for proper performance.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Understands the radiation therapy treatment process. Asks questions when in doubt.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			

PERFORMANCE STANDARDS	PERFORMANCE ASSESSMENT	COMMENTS/ IMPROVEMENT PLAN	DATE	INSTRUCTOR'S INITIALS
Maintains a timely patient schedule. (Aids in maintaining schedule)	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Maintains composure throughout dealings with unpleasant situations, patient's physical disfigurement, necrotic tissue, and dying patients.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Follows and has knowledge of proper radiation, cerrobend and chemotherapy hazards.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Educates patients and families appropriately for their procedures as allowed.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Answers telephone properly and does not make personal phone calls.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Understands charge codes for procedures and supplies.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Maintains supplies.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
PERFORMANCE STANDARDS	PERFORMANCE	COMMENTS/	DATE	INSTRUCTOR'S

	ASSESSMENT	IMPROVEMENT PLAN		INITIALS
Participates in department's QA program. Daily and monthly checks.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Assists with clerical and nursing duties.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Assists with proper treatment documentation on patients.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			

SECTION 2: CUSTOMER SERVICE BEHAVIORS

Indicate the performance definition for each customer service behavior. Use this opportunity to provide additional positive feedback. A plan of action must be documented in the comments section for any rating of NEEDS IMPROVEMENT.

PERFORMANCE STANDARDS	PERFORMANCE ASSESSMENT	COMMENTS/ IMPROVEMENT PLAN	DATE	INSTRUCTOR'S INITIALS
Greets all people in a prompt and courteous manner, making eye contact and speaking in a tone of voice that matches words.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Asks customers what they need and strives to exceed their expectations. Offers and provides assistance whether or not the request falls within your specific duties.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Responds to customer request in a timely manner, returning calls promptly and keeping them informed of delays before they ask.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			

SECTION 3: ORGANIZATIONAL EXPECTATIONS

Indicate the performance definition for each general expectation. Use this opportunity to provide additional positive feedback. A plan of action must be documented in the comments section for any rating of NEEDS IMPROVEMENT.

PERFORMANCE STANDARDS	PERFORMANCE ASSESSMENT	COMMENTS/ IMPROVEMENT PLAN	DATE	INSTRUCTOR'S INITIALS
Presents a positive image of Southern Illinois University system at all times. Reports for duty ready to work, giving proper attention to equipment, dress code, and grooming requirements.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			

Continuously seek opportunities for improvement.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Adheres to established safety standards and utilizes proper techniques to avoid work related injuries.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Attends required Health System education programs on a timely basis and achieves acceptable proficiency ratings.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Preserves the confidentiality of all hospital information including, but not limited to that of patients, employees, applicants, and physicians. Understands HIPAA Policies.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			
Comes to work as scheduled or called and reports to assigned work area on time. Adheres to attendance standard. Follows procedures for requesting time off and reporting unscheduled absences.	<input type="checkbox"/> MEETS/EXCEEDS EXPECTATIONS (2) <input type="checkbox"/> NEEDS IMPROVEMENT (0)			

PERFORMANCE SUMMARY

STUDENT COMMENTS: _____

CLINICAL INSTRUCTOR COMMENTS: _____

This Evaluation has been discussed with me and I have been given an opportunity to comment on its contents.

(Student Signature)

(Date)

(Instructor Signature)

(Date)

CLINICAL TIME SHEET

NAME: _____ CLINICAL SITE _____

*Time sheet is to be kept current at all times and turned in at end of semester.

*Indicate: Number of hours present each day, Number of hours absent, T = Tardy H = Holiday PD = Personal Day SD = Snow Day
ID = Interview Day

*One Personal Day in the spring and one Interview Day in the summer can be taken upon prior approval by your Clinical Supervisor.

*Failure to comply with the hours assigned by your clinical site will affect your clinical internship grade.

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Hours Present	Hours Absent	Hours Made Up	Total Days		
January																																					
February																																					
March																																					
April																																					
May																																					
June																																					
July																																					
August																																					

(Clinical Instructor's Signature) (Date) (Student's Signature) (Date)

***To be turned in at end of semester**

**SOUTHERN ILLINOIS UNIVERSITY
RADIATION THERAPY TECHNOLOGY SPECIALTY**

EVALUATION OF CLINICAL SITE

Clinical site _____

Date _____

Please rate the following categories. 5=excellent, 1=poor, 0=not applicable

This evaluation must be submitted along with all competency forms prior to your last day at the facility.

This evaluation will be held in confidence and is performed to insure that the facility is meeting the needs of the student therapist. Should any difficulties arise prior to the end of the semester, it is the responsibility of the student to notify the therapy program director immediately.

The facility provided adequate opportunity for completion of the required competencies.	5	4	3	2	1	0
The oncology staff was courteous, informative and helpful.	5	4	3	2	1	0
The clinical instruction and support facilitated my learning experience.	5	4	3	2	1	0
The overall clinical experience was a positive contribution toward my clinical education.	5	4	3	2	1	0
My pre-clinical preparation was adequate to enable me to accomplish clinical competency.	5	4	3	2	1	0
Medical (Physician) input was informative and helpful.	5	4	3	2	1	0

STUDENT COMMENTS & SIGNATURE:

This evaluation must be submitted along with all competency forms prior to your last day at the facility.

SPECIAL STUDIES IN RADIATION THERAPY

A review of the many types of cancer to include discussion of clinical symptoms, treatment patterns, technical pitfalls, survival statistics and patient/family interactions. Quality assurance procedures for a Radiation Therapy Department will also be reviewed to include the different QA tests, tolerances, and frequencies. Both written and oral seminar responses will be included in this course. Not for graduate credit. Prerequisite: RAD 360, 370, 380, 390, 400.

- **Course Evaluation & Due Dates**

- **Board Review Assignments, Disease Summary (DS) & Other Assignment Due Dates:**

- 01-19-24 DS1: Lung Cancer
- 01-26-24 Board Review 1
- 02-02-24 DS2: Colorectal/Prostate Cancer
- 02-09-24 Board Review 2
- 02-16-24 DS3: Head & Neck Cancer
- 02-23-24 Board Review 3
- 03-01-24 DS4: Hodgkin's/ Non-Hodgkin's & CNS Cancer
- 03-08-24 Board Review 4
- 03-22-24 DS5: Breast Cancer Summary
- 03-29-24 Board Review 5
- 04-05-24 DS6: GYN and Sarcoma Cancer Summary & Billing Assignment
- 04-12-24 QA Assignment
- 04-12-24 Resume
- 04-19-24 Bentel CH07

- **Quiz Dates: Every Other Thursday, 7-8pm - note that the quiz ends at 8pm, which means you need to start it by 7:30pm. Start and end dates are firm to provide testing integrity.**

- 01-18-24 Q1: Lung Cancer
- 02-01-24 Q2: Colorectal / Prostate Cancer
- 02-15-24 Q3: Head & Neck Cancer
- 02-29-24 Q4: Hodgkin's / Non-Hodgkin's
- 03-21-24 Q5: Breast Cancer
- 04-04-24 Q6A & Q6B: GYN /Sarcoma & Cross-Sectional Anatomy
- 04-18-24 Q7: Cross-Sectional Anatomy 2

No late work will be accepted as all submission deadlines must be met.

Grading for RAD 420-2

A Course grade of a "B" or better is required in RAD 420 to continue in the radiation therapy program.

The grade will be based on the following:

Total points will be made into percents for the following: Homework Assignments, Quizzes, Resume, and Disease Summary Completion Points

A = 100 - 93
B = 92 - 85
C = 84 - 77
D = 76 - 70
F = 70 and below

Please see full syllabus in D2L.

RAD 440-2

Seminar in Radiation Therapy

Course Syllabus

Course Description

This course is designed to prepare the student to challenge the American Registry of Radiologic Technologists Radiation Therapy exam. During this course the student will take mock registry exams in the specialty of radiation therapy and go through review materials. A portion of this course is on-campus. Professional development is addressed. Students must receive a “B” or higher to successfully complete the radiation therapy specialization. Not for graduate credit. Prerequisite: A “B” or better in RAD 410 and RAD 420. Co-requisite: A “B” or better in RAD 430.

• Course Requirements

• Homework Assignments:

- All assignments must be submitted to D2L by Friday night on the dates listed below (11:59PM is the latest)
- Save as submit each assignment as “**The Assignment Name, Student First and Last name**”.
- Record Keeping – as some assignments are long and worth a lot of points relative to the overall class grade, periodically save your work as well as keep a copy on your OneDrive or email it to yourself. I will not give excused missed assignments that are claimed to be lost or computer glitches.
- Please **bold**, **red**, or **highlight** answers to make them easily distinguishable from the questions. As long as there is good ‘contrast’ between the question and the answer I will be happy with the color choice selection. Please do not utilize hard to read colors that are faint. If it is not in correct format, I will email back your assignment so you can revise it with the proper contrast.
- ARRT Outline (Homework Assignments 1 & 2) - Fill in each topic outline on the ARRT exam specifications. Homework 1 and 2 attachments break the ARRT content outline into two halves. Use the course textbooks and peer-reviewed journals to answer questions first, then websites when needed.
 - **Microsoft Word ONLY!** All students have access to Microsoft word through the SIU email server. Click the waffle icon in the upper left corner of the screen & select word, then save to your OneDrive or email to yourself for a backup copy. A score of proportional work will be given for incomplete assignments, referenced by a predetermined point value.
 - Turn-it-In will be used as well to ensure integrity.
- Physics Review Packet: This assignment will focus on math/physics review
 - Word Doc or PDF will be accepted

• MOCK EXAMS

- ASRT Mock Exams – Students will be required to submit screenshots or PDF printouts of five ASRT mock exams as offered online via the required ASRT membership. Each ASRT mock exam is only 100 questions as compared to 200 questions on the D2L mock exams. Screenshots or PDF printouts must include the student’s name or credit will not be given. Submissions must also have scores above 95%, and anything less than 95% will not be awarded credit and the student will fail the assignment. Students are allowed an unlimited number of attempts at achieving the required 95% score before their respective due dates.
- D2L Mock Exams – Thirteen mock exams must be taken on D2L before their respective due dates listed below. Several of these D2L exams will be taken during the review week held at SIUC at the end of the summer semester. For the mock exams given before review week, students must achieve a score of 90% or higher to receive credit. Anything less than a score of 90% submitted as your highest attempt will be counted as a failure and the student will receive a score of 0 on that mock exam. Students are allowed an unlimited number of attempts at achieving the required 90% score before their respective due dates. These mock exams will open 2 weeks prior to their respective due dates.

- **No late work will be accepted as all submission deadlines must be met. All late work will be graded as ‘0’.**

- **A Course grade of a “B” or better is required in RAD 440 to receive course credit and successfully complete the radiation therapy program.**

A = 100 - 93
B = 92 - 85
C = 84 - 77
D = 76 - 70
F = 70 and below

Please see full syllabus in D2L.

APPENDIX A

Radiation Therapy Glossary

Artifacts - Markings on a radiograph that are foreign to the image.

Blocks/MLC - Devices used to shape radiation treatment fields. Frequency made of lead or alloys - blocks shield normal tissues or structures from being irradiated.

Brachytherapy - Radiation therapy treatment that is accomplished by inserting radioactive sources directly in the tumor site.

Cancer - A group of diseases characterized by abnormal cellular proliferation.

Clinical - Pertaining to or founded on actual observation and treatment of patients.

Competency - Having the ability to perform a specific task.

Contrast material (media) - High-density substances used radiographically to visualize internal structures or anatomy, such as Barium.

Disease - A disorder or abnormal condition having a characteristic train of symptoms that may affect the whole body or any of its parts. Its etiology, pathology and prognosis may be known or unknown.

Dose rate - A measure of the amount of radiation delivered over a period of time.

Evaluate - Quality Assessment of the preliminary data collection.

Interpret - To understand and explain an image for purposes of providing a diagnostic report.

Medical Dosimetrist - Member of the radiation oncology team responsible for developing treatment plans and calculating radiation doses to the tumor and surrounding normal tissues.

Physicist - Member of the radiation oncology team primarily responsible for calibration and maintenance of radiation therapy equipment.

Portal films - Radiographic documentation of treatment area made using the treatment unit.

Quality Assurance - A comprehensive set of policies and procedures designed to optimize the performance of personnel and equipment. A quality assurance program is all-encompassing and extends to administrative, educational and preventive maintenance methods. It includes methods to evaluate the speed of the diagnostic report and the patient's response to procedures. It is a continual evaluation of the adequacy and effectiveness of the overall imaging program, with intent to initiate corrective measures when necessary.

Radiation Oncologist - Physician responsible for prescribing, localizing and planning radiation therapy treatments, evaluating patient response to treatment and long-term follow up patient care.

Radiation protection - Procedures followed to prevent inappropriate or accidental irradiation of patient, public and health care professionals.

Simulation - An initial procedure in planning a course of radiation therapy. It is a mock up of patient treatment with radiographic documentation of treatment fields.

Treatment course - A patient's planned program of radiation treatment from simulation to the final treatment.

Treatment field (port, portal) - Volume exposed to radiation from a single radiation beam.

APPENDIX B

PRENATAL RADIATION EXPOSURE

A. INTRODUCTION

The Code of Federal Regulations in 10 CFR Part 19, “Notices, Instructions and Reports to Workers: Inspection and Investigations,” in Section 19.12, “Instructions to Workers,” requires instruction in “the health protection problems associated with exposure to radiation and/or radioactive material, in precautions or procedures to minimize exposure, and in the purposes and functions of protective devices employed.” The instructions must be “commensurate with potential radiological health protection problems present in the work place.”

The Nuclear Regulatory Commission’s (NRC’s) regulations on radiation protection are specified in 10 CFR Part 20, “Standards for Protection Against Radiation”; and 10 CFR 20.1208, “Dose to an Embryo/Fetus,” requires licensees to “ensure that the dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman, does not exceed 0.5 rem (5 mSv).” Section 20.1208 also requires licensees to “make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman.” A declared pregnant woman is defined in 10 CFR 20.1003 as a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception.

This regulatory guide is intended to provide information to pregnant women, and other personnel, to help them make decisions regarding radiation exposure during pregnancy. This Regulatory Guide 8.13 supplements Regulatory Guide 8.29, “Instruction Concerning Risks from Occupational Radiation Exposure” (Ref 1), which contains a broad discussion of the risks from exposure to ionizing radiation.

Other sections of the NRC’s regulations also specify requirements for monitoring external and internal occupational dose to a declared pregnant woman. In 10 CFR 20.1502, “Conditions Requiring Individual Monitoring of External and Internal Occupational Dose,” licensees are required to monitor the occupational dose to a declared pregnant woman, using an individual monitoring device, if it is likely that the declared pregnant woman will receive, from external sources, a deep dose equivalent in excess of 0.1 rem (1 mSv). According to Paragraph (e) of 10 CFR 20.2106, “Records of Individual Monitoring Results,” the licensee must maintain records of dose to an embryo/fetus if monitoring was required, and the records of dose to the embryo/fetus must be kept with the records of dose to the declared pregnant woman. The declaration of pregnancy must be

kept on file, but may be maintained separately from the dose records. The licensee must retain the required form or record until the Commission terminates each pertinent license requiring the record.

The information collections in this regulatory guide are covered by the requirements of 10 CFR Parts 19 or 20, which were approved by the Office of Management and Budget, approval numbers 3150-0044 and 3150-0014, respectively. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

B. DISCUSSION

As discussed in Regulatory Guide 8.29 (Ref. 1), exposure to any level of radiation is assumed to carry with it a certain amount of risk. In the absence of scientific certainty regarding the relationship between low dose exposure and health effects, and as a conservative assumption for radiation protection purposes, the scientific community generally assumes that any exposure to ionizing radiation may cause undesirable biological effects and that the likelihood of these effects increases as the dose increases. At the occupational dose limit for the whole body of 5 rem (50 mSv) per year, the risk is believed to be very low.

The magnitude of risk of childhood cancer following in utero exposure is uncertain in that both negative and positive studies have been reported. The data from these studies “are consistent with a lifetime cancer risk resulting from exposure during gestation which is two to three times that for the adult” (NCRP Report No. 116, Ref. 2). The NRC has reviewed the available scientific literature and has concluded that the 0.5 rem (5 mSv) limit specified in 10 CFR 20.1208 provides an adequate margin of protection for the embryo/fetus. This dose limit reflects the desire to limit the total lifetime risk of leukemia and other cancers associated with radiation exposure during pregnancy.

In order for a pregnant worker to take advantage of the lower exposure limit and dose monitoring provisions specified in 10 CFR Part 20, the woman must declare her pregnancy in writing to the licensee. A form letter for declaring pregnancy is provided in this guide or the licensee may use its own form letter for declaring pregnancy. A separate written declaration should be submitted for each pregnancy.

C. REGULATORY POSITION

1. Who Should Receive Instruction

Female workers who require training under 10 CFR 19.12 should be provided with the information contained in this guide. In addition to the information contained in Regulatory Guide 8.29 (Ref. 1), this information may be included as part of the training required under 10 CFR 19.12.

2. Providing Instruction

The occupational worker may be given a copy of this guide with its Appendix, an explanation of the contents of the guide, and an opportunity to ask questions and request additional information. The information in this guide and Appendix should also be provided to any worker or supervisor who may be affected by a declaration of pregnancy or who may have to take some action in response to such a declaration.

Classroom instruction may supplement the written information. If the licensee provides classroom instruction, the instructor should have some knowledge of the biological effects of radiation to be able to answer questions that may go beyond the information provided in this guide. Videotaped presentations may be used for classroom instruction. Regardless of whether the licensee provides classroom training, the licensee should give workers the opportunity to ask questions about information contained in this Regulatory Guide 8.13. The licensee may take credit for instruction that the worker has received within the past year at other licensed facilities or in other courses or training.

3. Licensee's Policy on Declared Pregnant Women

The instruction provided should describe the licensee's specific policy on declared pregnant women, including how those policies may affect a woman's work situation. In particular, the instruction should include a description of the licensee's policies, if any, that may affect the declared pregnant woman's work situation after she has filed a written declaration of pregnancy consistent with 10 CFR 20.1208.

The instruction should also identify who to contact for additional information as well as identify who should receive the written declaration of pregnancy. The recipient of the woman's declaration may be identified by name (e.g., John Smith), position (e.g., immediate supervisor, the radiation safety officer), or department (e.g., the personnel department).

4. Duration of Lower Dose Limits for the Embryo/Fetus

The lower dose limit for the embryo/fetus should remain in effect until the woman withdraws the declaration in writing or the woman is no longer pregnant. If a declaration of pregnancy is withdrawn, the dose limit for the embryo/fetus would apply only to the time for the estimated date of

conception until the time the declaration is withdrawn. If the declaration is not withdrawn, the written declaration may be considered expired one year after submission.

5. Substantial Variations Above a Uniform Monthly Dose Rate

According to 10 CFR 20.1208(b), “The licensee shall make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman so as to satisfy the limit in paragraph (a) of this section,” that is, 0.5 rem (5 mSv) to the embryo/fetus. The National Council on Radiation Protection and Measurements (NCRP) recommends a monthly equivalent dose limit of 0.05 rem (0.5 mSv) to the embryo/fetus once the pregnancy is known (Ref. 2). In view of the NCRP recommendation, any monthly dose of less than 0.1 rem (1 mSv) may be considered as not a substantial variation above a uniform monthly dose rate and as such will not require licensee justification. However, a monthly dose greater than 0.1 rem (1 mSv) should be justified by the licensee.

D. IMPLEMENTATION

The purpose of this section is to provide information to licensees and applicants regarding the NRC staff’s plans for using this regulatory guide.

Unless a licensee or an applicant proposes an acceptable alternative method for complying with the specified portions of the NRC’s regulations, the methods described in this guide will be used by the NRC staff in the evaluation of instructions to workers on the radiation exposure of pregnant women.

REFERENCES

1. USNRC, “Instruction Concerning Risks from Occupational Radiation Exposure,” Regulatory Guide 8.29, Revision 1, February 1996.
2. National Council on Radiation Protection and Measurements, *Limitation of Exposure to Ionizing Radiation*, NCRP Report No. 116, Bethesda, MD, 1993.

APPENDIX C

QUESTIONS AND ANSWERS CONCERNING PRENATAL RADIATION EXPOSURE

1. Why am I receiving this information?

The NRC's regulations (in 10 CFR 19.12, "Instructions to Workers) require that licensees instruct individuals working with licensed radioactive materials in radiation protection as appropriate for the situation. The instruction below describes information that occupational workers and their supervisors should know about the radiation exposure of the embryo/fetus of pregnant women.

The regulations allow a pregnant woman to decide whether she wants to formally declare her pregnancy to take advantage of lower dose limits for the embryo/fetus. This instruction provides information to help women make an informed decision whether to declare a pregnancy.

2. If I become pregnant, am I required to declare my pregnancy?

No. The choice whether to declare your pregnancy is completely voluntary. If you choose to declare your pregnancy, you must do so in writing and a lower radiation dose limit will apply to your embryo/fetus. If you choose not to declare your pregnancy, you and your embryo/fetus will continue to be subject to the same radiation dose limits that apply to other occupational workers.

3. If I declare my pregnancy in writing, what happens?

If you choose to declare your pregnancy in writing, the licensee must take measures to limit the dose to your embryo/fetus to 0.5 rem (5 millisievert) during the entire pregnancy. This is one-tenth of the dose that an occupational worker may receive in a year. If you have already received a dose exceeding 0.5 rem (5 mSv) in the period between conception and the declaration of your pregnancy, an additional dose of 0.05 rem (0.5 mSv) is allowed during the remainder of the pregnancy. In addition, 10 CFR 20.1208, "Dose to an Embryo/Fetus," requires licensees to make efforts to avoid substantial variation above a uniform monthly dose rate so that all the 0.5 rem (5 mSv) allowed dose does not occur in a short period during the pregnancy.

This may mean that, if you declare your pregnancy, the licensee may not permit you to do some of your normal job functions if those functions would have allowed you to receive more than 0.5 rem, and you may not be able to have some emergency response responsibilities.

4. Why do the regulations have a lower dose limit for the embryo/fetus of a declared pregnant woman than for a pregnant worker who has not declared?

A lower dose limit for the embryo/fetus of a declared pregnant woman is based on a consideration of greater sensitivity to radiation of the embryo/fetus and the involuntary nature of the exposure. Several scientific advisory groups have recommended (References 1 and 2) that the dose to the embryo/fetus be limited to a fraction of the occupational dose limit.

5. What are the potentially harmful effects of radiation exposure to my embryo/fetus?

The occurrence and severity of health effects caused by ionizing radiation are dependent upon the type and total dose of radiation received, as well as the time period over which the exposure was received. See Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Exposure" (Ref. 3), for more information. The main concern is embryo/fetal susceptibility to the harmful effects of radiation such as cancer.

6. Are there any risks of genetic defects?

Although radiation injury has been induced experimentally in rodents and insects, and in the experiments was transmitted and became manifest as hereditary disorders in their offspring, radiation has not been identified as a cause of such effect in humans. Therefore, the risk of genetic effects attributable to radiation exposure is speculative. For example, no genetic effects have been documented in any of the Japanese atomic bomb survivors, their children, or their grandchildren.

7. What if I decide that I do not want any radiation exposure at all during my pregnancy?

You may ask your employer for a job that does not involve any exposure at all to occupational radiation dose, but your employer is not obligated to provide you with a job involving no radiation exposure. Even if you receive no occupational exposure at all, your embryo/fetus will receive some radiation dose (on average 75 mrem [0.75 mSv]) during your pregnancy from natural background radiation.

The NRC has reviewed the available scientific literature and concluded that the 0.5 rem (5 mSv) limit provides an adequate margin of protection for the embryo/fetus. This dose limit reflects the desire to limit the total lifetime risk of leukemia and other cancers. If this dose limit is exceeded, the total lifetime risk of cancer to the embryo/fetus may increase incrementally. However, the decision on what level of risk to accept is yours. More detailed information on potential risk to the embryo/fetus from radiation exposure can be found in References 2-10.

8. What effect will formally declaring my pregnancy have on my job status?

Only the licensee can tell you what effect a written declaration of pregnancy will have on your job status. As part of your radiation safety training, the licensee should tell you the company's policies with respect to the job status of declared pregnant women. In addition, before you declare your pregnancy, you may want to talk to your supervisor or your radiation safety officer and ask what a declaration of pregnancy would mean specifically for you and your job status.

In many cases you can continue in your present job with no change and still meet the dose limit for the embryo/fetus. For example, most commercial power reactor workers (approximately 93%) receive, in 12 months, occupational radiation doses that are less than 0.5 rem (5 mSv) (Ref.

11). The licensee may also consider the likelihood of increased radiation exposures from accidents and abnormal events before making a decision to allow you to continue in your present job.

If your current work might cause the dose to your embryo/fetus to exceed 0.5 rem (5 mSv), the licensee has various options. It is possible that the licensee can and will make a reasonable accommodation that will allow you to continue performing your current job, for example, by having another qualified employee do a small part of the job that accounts for some of your radiation exposure.

9. What information must I provide in my written declaration of pregnancy?

You should provide, in writing, your name, a declaration that you are pregnant, the estimated date of conception (only the month and year need be given), and the date that you give the letter to the licensee. A form letter that you can use is included at the end of these questions and answers. You may use that letter, use a form letter the licensee has provided to you, or write your own letter.

10. To declare my pregnancy, do I have to have documented medical proof that I am pregnant?

NRC regulations do not require that you provide medical proof of your pregnancy. However, NRC regulations do not preclude the licensee from requesting medical documentation of your pregnancy, especially if a change in your duties is necessary in order to comply with the 0.5 rem (5 mSv) dose limit.

11. Can I tell the licensee orally rather than in writing that I am pregnant?

No. The regulations require that the declaration must be in writing.

12. If I have not declared my pregnancy in writing, but the licensee suspects that I am pregnant, do the lower dose limits apply?

No. The lower dose limits for pregnant women apply only if you have declared your pregnancy in writing. The United States Supreme Court has ruled (in *United Automobile Workers International Union v. Johnson Controls, Inc.*, 1991) that “Decisions about the welfare of future children must be left to the parents who conceive, bear, support, and raise them rather than to the employers who hire those parents” (Reference 7). The Supreme Court also ruled that your employer may not restrict you from a specific job “because of concerns about the next generation.” Thus, the lower limits apply only if you choose to declare your pregnancy in writing.

13. If I am planning to become pregnant but am not yet pregnant and I inform the licensee of that in writing, do the lower dose limits apply?

No. The requirement for lower limits applies only if you declare in writing that you are already pregnant.

14. What if I have a miscarriage or find out that I am not pregnant?

If you have declared your pregnancy in writing, you should promptly inform the licensee in writing that you are no longer pregnant. However, if you have not formally declared your pregnancy in writing, you need not inform the licensee of your nonpregnant status.

15. How long is the lower dose limit in effect?

The dose to the embryo/fetus must be limited until you withdraw your declaration in writing or you inform the licensee in writing that you are no longer pregnant. If the declaration is not withdrawn, the written declaration may be considered expired one year after submission.

16. If I have declared my pregnancy in writing, can I revoke my declaration of pregnancy even if I am still pregnant?

Yes, you may. The choice is entirely yours. If you revoke your declaration of pregnancy, the lower dose limit for the embryo/fetus no longer applies.

17. What if I work under contract at a licensed facility?

The regulations state that you should formally declare your pregnancy to the licensee in writing. The licensee has the responsibility to limit the dose to the embryo/fetus.

18. Where can I get additional information?

The references to this Appendix contain helpful information, especially Reference 3, NRC's Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure" for general information on radiation risks. The licensee should be able to give this document to you.

For information on legal aspects, see Reference 7, "The Rock and the Hard Place: Employer Liability to Fertile or Pregnant Employees and Their Unborn Children – What Can the Employer Do?" which is an article in the journal *Radiation Protection Management*.

You may telephone the NRC Headquarters at (301) 415-7000. Legal questions should be directed to the Office of the General Counsel, and technical questions should be directed to the Division of Industrial and Medical Nuclear Safety.

You may also telephone the NRC Regional Offices at the following numbers: Region I, (610) 337-5000; Region II, (404) 562-4400; Region III, (630) 829-9500; and Region IV, (817) 860-8100. Legal questions should be directed to the Regional Counsel, and technical questions should be directed to the Division of Nuclear Materials Safety.

REFERENCES FOR APPENDICIES B & C

1. National Council on Radiation Protection and Measurements, *Limitation of Exposure to Ionizing Radiation*, NCRP Report No. 116, Bethesda, MD, 1993.
 2. International Commission on Radiological Protection, *1990 Recommendations of the International Commission on Radiological Protection*, ICRP Publication 60, Ann. ICRP 21: No. 1-3, Pergamon Press, Oxford, UK, 1991.
 3. USNRC, "Instruction Concerning Risks from Occupational Radiation Exposure," Regulatory Guide 8.29, Revision 1, February 1996.¹ (Electronically available at www.nrc.gov/NRC/RG/index.html)
 4. Committee on the Biological Effects of Ionizing Radiations, National Research Council, *Health Effects of Exposure to Low Levels of Ionizing Radiation (BEIR V)*, National Academy Press, Washington, DC, 1990.
 5. United Nations Scientific Committee on the Effects of Atomic Radiation, *Sources and Effects of Ionizing Radiation*, United Nations, New York, 1993.
 6. R. Doll and R. Wakeford, "Risk of Childhood Cancer from Fetal Irradiation," *The British Journal of Radiology*, 70, 130-139, 1997.
 7. David Wiedis, Donald E. Jose, and Timm O. Phoebe, "The Rock and the Hard Place: Employer Liability to Fertile or Pregnant Employees and Their Unborn Children – What Can the Employer Do?" *Radiation Protection Management*, 11, 41-49, January/February 1994.
 8. National Council on Radiation Protection and Measurements, *Considerations Regarding the Unintended Radiation Exposure of the Embryo, Fetus, or Nursing Child*, NCRP Commentary No. 9, Bethesda, MD, 1994.
 9. National Council on Radiation Protection and Measurements, *Risk Estimates for Radiation Protection*, NCRP Report No. 115, Bethesda, MD, 1993.
 10. National Radiological Protection Board, *Advice on Exposure to Ionizing Radiation During Pregnancy*, National Radiological Protection Board, Chilton, Didcot, UK, 1998.
 11. M. L. Thomas and D. Hagemeyer, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities, 1996," Twenty-Ninth Annual Report, NUREG-0713, Vol. 18, USNRC, 1998.²
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¹Single copies of regulatory guides, both active and draft, and draft NUREG documents may be obtained free of charge by writing the Reproduction Distribution Services Section, OCIO, USNRC, Washington, DC 20555-0001, or by fax to (301) 415-2289, or by email to <DISTRIBUTION@NRC.GOV>. Active guides may also be purchased from the National Technical Information Service on a standing order basis. Details on this service may be obtained by writing NTIS, 5285 Port Royal Road, Springfield, VA 22161. Copies of active and draft guides are available for inspection or copying for a fee from the NRC Public Document Room at 2120 L Street NW, Washington, DC; the PDR's mailing address is Mail Stop LL-6, Washington, DC 20555; telephone (202) 634-3273; fax (202) 634-3343.

PREGNANCY POLICY for RADIATION THERAPY

The Southern Illinois University at Carbondale (SIUC) Radiation Therapy faculty believe it is the responsibility of the pregnant Radiation Therapy student to advise her Clinical Instructor and Program Director **voluntarily** and in **writing** of her pregnancy and estimated date of her baby's birth (delivery). Formal, voluntary notification of pregnancy is the only means by which the clinical facility and the University's Radiation Therapy program can ensure that the dose to the embryo-fetus is limited during the pregnancy not to exceed 5 mSv (500 mrem). In the absence of the voluntary, written disclosure, a student cannot be considered pregnant.

To comply with this embryo-fetus dose limit, the pregnant Radiation Therapy student has been given the following documents to read:

- a. The January 1994 issue of the 32 Illinois Administrative Code, Chapter II Section 340.280, Subchapter b, Subsections (a) through (e) "Dose to an Embryo/Fetus".
- b. NCRP Report #116, 1993, Section 10 "Protection of the Embryo-Fetus".
- c. U.S. Nuclear Regulatory Commission Regulatory Guide 8.13, Revision 3, December 1999, "Instruction Concerning Prenatal Radiation Exposure".

WAIVER:

I fully understand the contents of these documents, have had my questions answered to my satisfaction, and I choose to proceed with my Radiation Therapy education as indicated below.

_____ **I am fully aware of SIUC's pregnancy policy** and choose to continue my clinical and didactic education without modification or interruption. If I am currently pregnant or become pregnant while in the Medical Dosimetry program, I may notify my Clinical Instructor and Program Director **voluntarily** and in **writing** of my pregnancy with one of the options below if I want to declare pregnancy.

_____ **I am pregnant** and choose to continue my clinical and didactic education without modification or interruption. I accept full responsibility for my own actions and the health of my baby. Furthermore, I absolve, discharge, release, and hold harmless my Clinical site and its Oncology staff, and the Board of Trustees for Southern Illinois University together with its officers and employees (the Radiation Therapy program its faculty) for any legal liability, claims, damages or complications that may occur during fetal growth, birth, and postnatal development of my baby..

_____ **I am pregnant** and choose to continue my clinical and didactic education with some modification of my clinical assignments. I will not participate in brachytherapy or gamma knife procedures. A grade of Incomplete "INC" will be given until I have completed all clinical education missed during my pregnancy. The completion of the "INC" may delay my sitting for the ARRT Exam.

_____ **I am pregnant** and choose to take a leave of absence from the clinical assignments during my pregnancy. A grade of Incomplete "INC" will be given until I have completed all clinical education missed during my pregnancy. The completion of the "INC" may delay my sitting for the ARRT Exam.

_____ **I am pregnant** and choose to take a leave of absence from the SIUC Radiation Therapy program. If I notify the Program Director of my desire to return, I will be offered a position in the next class, the following year.

_____ **I wish to withdraw my previous declaration of pregnancy.**

I agree to comply with the above-stated policy and with my decision as indicated above.

Student Signature

Date

Supervising Clinical Instructor

Date

Program Director

Date

MAGNETIC RESONANCE (MR) SAFETY SCREENING PROTOCOL

WARNING:

An MR room has a very strong magnetic field that may be hazardous to individuals entering the MR environment if they have certain metallic, electronic, magnetic, or mechanical implants, devices, or objects. Therefore, all students are required to fill out this form before going to their clinical internship. Be advised, the MR system magnet is ALWAYS on.

Do not enter the MR environment or MR system room if you have any question or concern regarding an implant, device, or object.

Please indicate if you have any of the following:

- Aneurysm clip(s)
- Cardiac pacemaker
- Implanted cardioverter defibrillator (ICD)
- Electronic implant or device
- Magnetically activated implant or device
- Neurostimulation system
- Spinal cord stimulator
- Cochlear implant or implanted hearing aid
- Insulin or infusion pump
- Implanted drug infusion device
- Any type of prosthesis or implant
- Artificial or prosthetic limb
- Any metallic fragment or foreign body
- Any external or internal metallic object
- Hearing aid
- Other implant _____
- Other device _____

Please indicate below if you have not specified any of the above:

- I have not received any implants, devices, or objects to the best of my knowledge

I attest that the above information is correct to the best of my knowledge. I have read and understand the entire contents of this form and have had the opportunity to ask questions regarding the information on this form. If my screening status changes, I will notify the program faculty immediately.

I have also read and understand the MRI Safety information on D2L as well as watched the safety video at the following links for Level 1 and 2 personnel:

https://www.youtube.com/watch?v=1_axmgZI22c&t=3s and <https://www.youtube.com/watch?v=4ngMf6-B6sE>. I agree this information is covered during the program orientation.

Student Signature

Date

**Southern Illinois University Carbondale
Radiation Therapy Program
Safety Orientation Attendance Sheet**

For each clinical site a student must attend a safety orientation for the respective facility. This at a minimum must address hazards (fire, electrical, chemical), emergency preparedness, medical emergencies, HIPAA, and Standard Precautions. Radiation safety should also be discussed. By signing below the student is verifying attendance to this orientation.

Clinic Site: _____

Please mark all topics below when covered:

____ Hazards (Fire, Electrical, Chemical)

____ Emergency Preparedness

____ Medical Emergencies

____ HIPAA

____ Standard Precautions.

Other, please list:

Student Signature / Date

**SIUC RADIATION THERAPY PROGRAM
INTERVIEW EVALUATION**

Student: _____

Evaluator: _____

Please assess each statement by placing the number that best describes the student's interview skills in the space provided.

- 1, 2, 3, or 4 = Levels of Unacceptable
- 5, 6, 7, 8, or 9 = Acceptable but improvements can be made
- 10 = Excellent (consistently performs above level of expectation)

1.	Resume – 2 points for each resume category a. Format b. Appearance c. Completeness d. Clarity e. Stated professional objective	
2.	Wore proper interview attire.	
3.	Greeted interviewer appropriately.	
4.	Demonstrated a positive professional attitude and appearance.	
5.	Maintained proper interview etiquette.	
6.	Was able to discuss pertinent aspects of a radiation therapy position.	
7.	Maintained proper body language during interview.	
8.	Answered impromptu questions appropriately.	
9.	Asked proper interview questions.	
10.	Maintained proper interview composure.	
Total Points:		/100
Evaluator's Comments:		
Clinical Instructor's Signature		Date
Intern's Comments:		
Intern's Signature		Date

STUDENT ACADEMIC GRIEVANCE PROCEDURES
for the College of Health and Human Sciences
Southern Illinois University Carbondale

GRADES GIVEN AT THE END OF A COURSE ARE FINAL AND MAY NOT BE CHANGED BY ADDITIONAL WORK OR BY SUBMITTING ADDITIONAL MATERIALS.

EXTENUATING CIRCUMSTANCES WHICH TRANSCEND PROFESSIONAL JUDGEMENT OF THE INSTRUCTOR MAY BE APPEALED THROUGH PROCEDURES ESTABLISHED BY THE COLLEGE OF HEALTH AND HUMAN SCIENCES. MATTERS RELATED TO FACULTY JUDGMENT IN GRADING MAY NOT BE APPEALED.

A matter related to academic evaluation is the responsibility of the School that houses the program in which the issue occurs and the office of the Dean of the College of Health and Human Sciences. Every effort should be made to resolve such academic evaluation problems quickly at the program level. In the cases in which the problems are not resolved at the program level, the student has the option to file a formal grievance. It is the instructor's prerogative to assign grades in accordance with his/her academic/professional judgment, and the student assumes the burden of proof in the appeal process. The following process is in alignment with the guidelines set by the University and is designed to assist the student through the appeal process.

Grades may be appealed only on procedural grounds and not on substantive grounds. Grades may **not** be appealed beyond the level of the Dean.

Matters pertaining to evaluation of a course in which the student is or has been registered that are not resolved between the persons directly involved will be adjudicated in the following manner:

1. A student who has reason to be aggrieved will file the complaint in writing with the School Director responsible for the program in which the incident occurs.
 - a. The complaint must be presented in sufficient detail that a proper response may be made.
 - b. The complaint must be received by the School Director within 30 working days of the occurrence of the incident.
2. The School Director will submit a copy of the complaint to the other party named in the complaint within three (3) working days.
3. The other party will respond in writing to the complaint to the School Director within 15 working days of receipt of the copy of the complaint.
4. The School Director will, within seven (7) working days of receipt of the response to the complaint, transmit a written decision in the matter to both parties along with notification of appellate procedures. A copy of the response to the complaint will also be sent to the Dean of the College of Health and Human Sciences. Failure of either party to respond through the appropriate appellate channels within 15 working days will be interpreted as acceptance of the decision and its implementation by the appropriate office.

5. Should either party be unwilling to accept the decision of the School Director, an appeal may be made to the Dean of the College of Health and Human Sciences. Such appeal must be submitted in writing within 15 working days of the receipt of the decision by the School Director. The appeal must specify:
 - a. The original complaint;
 - b. The grounds for the appeal; and
 - c. Recommendation(s) for resolution of the complaint.
6. The appellant will select one of the following procedures for adjudication. The appellant may request consultation with the Dean of the College of Health and Human Sciences or their designee prior to this selection.
 - a. **Administrative:** The Dean of the College of Health and Human Sciences, or their designee will review the matter with each of the parties involved and render a decision in writing within 30 working days of the review.
 - b. **Panel:** The Dean of the College of Health and Human Sciences, or their designee will appoint a panel consisting of three faculty members with no administrative appointment and three students to review the matter and render a decision within 30 working days of the review. The panel has the option to meet with either party in person during the appeal process to collect more information or clarify existing information in the written documentation. This is not required and cannot be requested by the parties involved in the grievance. Written records of the review proceedings will be placed in the Dean's office in the College of Health and Human Sciences.
7. When a decision is reached by one of the above methods, the Dean of the College of Health and Human Sciences, or their designee will notify each of the parties of the decision in writing. A copy of the decision will be filed with the Dean's office in the College of Health and Human Sciences. An information copy will also be sent to the Dean of the Graduate School if the matter involves a graduate student. There is no appeal for grades above the level of the College Dean.

RAD 410-10
Radiation Therapy Clinical Internship I
Course Syllabus
Rick McKinnies
And
Brandon Hirsch

Course Description

This is the first clinical internship of a two-course sequence. A practicum at a selected clinical education center in which the student functions under direct supervision and applies the knowledge gained in the classroom. The student will function in the clinical setting to interpret and execute the radiation oncologist's orders and operate the ionizing radiation equipment during actual patient treatments and simulations. Construction of treatment aids will also be performed. Prerequisite: A grade of "C" or better in RAD 360, 370, 380, 390, and 400.

Course Objectives

1. Demonstrate competence in the following procedures: Patient Care, Simulation procedures, Dosimetry, Treatment accessories, radiation treatments, quality assurance procedures, and billing and coding procedures
2. Demonstrate an understanding in brachytherapy procedures.

Required Text and Materials

No new textbooks are required for this course however the Vann Review book is recommended. A student will need to have access to the Internet as Desire2Learn will be used.

Grading

A Course grade of a "B" or better is required in RAD 420 to successfully graduate from the radiation therapy program.

Growth Evaluations 50%

RAD 410 - Based upon 4th, 7th, 10th, and 15th week **Personal/Professional Growth Evaluations** found on page 23 of this Handbook

If a student receives two or more Growth Evaluations that are below an 80% during one semester; their continuation in the Radiation Therapy Program is at the discretion of the Program Director and Clinical Instructor. It is expected that all students consistently show progress in the development of their radiation therapy skills and always demonstrate a positive attitude. A grade of an "F" will be given for the semester in which the student is removed from the program.

Completion of Clinical Competency Forms 30%

Must have one sheet per competency and complete **all comps the spring semester**. Half the required competencies for each category must be completed for the summer semester.

All failed competency attempts must be turned in! If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

For grading purposes, passing a competency on the second attempt, student will receive ½ credit; if passed on the third attempt, student will receive ¼ credit; if passed on the fourth attempt, student will receive 0 credit but will be required to have the competency.

Normal progress in all semesters must be demonstrated to continue on in the program. To achieve normal progress in the Spring semester a student must have 4 successful competencies by the end of week four and 12 successful

competencies by the end of week eight.

Student Clinical Evaluation 15%

Based upon completion of all sections of evaluation found on pages 51-57 of this Handbook

Journal 5%

Must make a weekly log and state how their clinical rotation is going and what new information was learned during the week. Post this “word” document every Friday to the Desire2Learn server.

The grading scale for RAD 410 is:

- 93 - 100 = A — Exceptionally high achievement
- 85 - 92 = B — Satisfactory achievement
- 77 - 84 = C — Unsatisfactory achievement - removed from program
- 70 - 76 = D — Unsatisfactory achievement - removed from program
- Below 70 = F — Unsatisfactory achievement - removed from program

Any competency (performance standards), not completed will result in a semester grade of incomplete (**INC**). This incomplete **must** be completed in order to graduate from the program and receive their diploma.

If a student is removed from a clinical site for behavioral reasons, they must leave immediately and will not be allowed to continue the Radiation Therapy Program. If the student is removed for poor growth evaluations, failing competencies or not making satisfactory progress, a grade of an “F” will be given for the semester they are removed.

To successfully complete the program, one must receive a “B” or better for RAD 410

At the end of this clinical semester the student must submit the following in a 3-hole binder with title page and dividers, in order:

1. Four (4) Personal/Professional Growth Evaluations completed during weeks 4, 7, 10, and 15 of the Spring clinical semester. The evaluation is found on page 23 of this Handbook
2. Completed and signed Radiation Therapy Clinical competency requirements. A specific evaluation sheet must be available for each competency. This information is found on pages 24-50 of this handbook. If you do not perform certain competencies, they must be simulated on a Therapist or mannequin. Include the completed summaries on pages 24-28. File the competencies in the order they are listed on the summary sheets.
3. Complete Student Clinical Evaluation found on pages 51-57 of this Handbook. (Dated and signed)
4. Completed and signed Clinical Time Sheet found on page 58 of this Handbook.
5. Completed Evaluation of Clinical Site found on page 60 of this Handbook.
6. Completed Interview Comp found on page 77 of this Handbook
7. Complete Journal document.

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An INC assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a complete grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or graduation whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever comes first, the incomplete will be converted to a grade of F and the grade will be computed in the students grade point average. Students should not register for courses in which an INC has been assigned with the intent of changing the INC grade. Re-registration will not prevent the INC from being changed to an F.

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of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ from you is an important part of your education in this class, as well an essential preparation for your career.

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3. Cheating by any method or means;
4. Knowingly or willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research;
5. Knowingly furnishing false information to a university official relative to academic matters;
6. Soliciting, aiding, abetting, concealing, or attempting acts of academic dishonesty.

ADA ACCOMMODATIONS:

In keeping with the goal of the implementation of the Americans with Disabilities Act (ADA), all students for whom this act applies should notify the instructor no later than the second session of the course so that arrangements can be made for accommodations to meet your educational needs and maximize learning.

RESOURCES FOR ADDITIONAL ACADEMIC HELP

Supplementary Assistance: With cooperation of SIU's Disability Support Services (DSS), each student who qualifies for reasonable supplementary assistance has the right to receive it. Students requesting supplementary assistance must first register with DSS in Woody Hall B-150, (453-5738) or <http://disabilityservices.siu.edu/>

Notice: If you have any type of special need(s) or disability for which require accommodations to promote learning in this class, please contact me as soon as possible. The Office of Disability Support Services (DDS) offers various support services and can help you with you with special accommodations. You may wish to contact DDS at 453-5738 or go to Room 150 at Woody Hall to verify your eligibility and options for accommodations related to your special need(s) or disability.

OFFICE HOURS:

Rick McKinnies		
Office- Room 213A	Monday	8:30 a.m. to 11:30 a.m.
Building- CASA	Wednesday	8:30 a.m. to 11:30 a.m.
Phone- 453-7260		
Email- rmck@siu.edu		

Brandon Hirsch		
Office- Room 120 A	Thursday	8:30 a.m. to 12:00 p.m.
Building- CASA	Friday	8:30 a.m. to 12:00 p.m.
Phone- 453-7212		
Email- bhirsch110@siu.edu		

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SALUKI CARES

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RAD 420-2
SPECIAL STUDIES IN RADIATION THERAPY
Brandon Hirsch

Course Description

A review of the many types of cancer to include discussion of clinical symptoms, treatment patterns, technical pitfalls, survival statistics and patient/family interactions. Quality assurance procedures for a Radiation Therapy Department will also be reviewed to include the different QA tests, tolerances, and frequencies. Both written and oral seminar responses will be included in this course. Prerequisite: A “C” or better in RAD 360, 370, 380, 390, 400.

Course Objectives

1. Demonstrate knowledge of the nursing aspect of patient care.
2. Demonstrate an understanding of the disease: stage, diagnosis, prognosis, and cross-sectional anatomy.
3. Demonstrate an understanding of quality assurance procedures.
4. Demonstrate an understanding of billing procedures.

Course Requirements

6. Fill in the summaries from Principles and Practice of Radiation Therapy, Chapters 28-40. You should supplement with the Otto nursing book where necessary. Each area should be sourced with page numbers and then list the references on a bibliography page. The summaries should be typed in Microsoft Word and posted to D2L by Friday night by 11:59 p.m. on the respective due date. A completion score of 5 points will be given for all comprehensive assignments. A completion score of 0 will be given for any summaries not fully completed or turned in late.
7. Outline and summarize the Bentel Radiation Therapy Planning, Chapter 7. It should be posted to D2L on Friday night by 11:59 p.m. on the respective due date. No late assignments will be accepted.
8. A quiz will be taken on Thursday night at 7:00 p.m. and will consist of questions that will reference the information in the disease summary relative to the assignment that will be turned in on the following Friday night. Each quiz will consist of 10 to 20 multiple-choice questions for the respective summary and will also contain various cross-sectional anatomy questions. No make-up quizzes will be offered.

Disease & Bentel summary due dates: See D2L.

4. Lung Cancer Summary
Colorectal and Prostate Cancer Summary
Head and Neck Cancer Summary
Hodgkins/NonHodgkins & CNS Cancer Summary

Breast Cancer Summary
GYN and Sarcoma Cancer Summary
Bentel Ch. 7

5. There will also be multiple homeworks to be completed and turned in on specific due dates (To be arranged). These will alternate with the disease summaries and the Bentel chapter.

Grading for RAD 420-2

A Course grade of a “B” or better is required in RAD 420 to continue in the radiation therapy program.

The grade will be based on the following:

Total points will be made into percent's for the following: Homework Assignments, Quizzes, and Disease Summary Completion Points

A = 100 - 93
B = 92 - 85
C = 84 - 77
D = 76 - 70
F = 70 and below

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4. Knowingly or willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research;
5. Knowingly furnishing false information to a university official relative to academic matters;
6. Soliciting, aiding, abetting, concealing, or attempting acts of academic dishonesty.

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RESOURCES FOR ADDITIONAL ACADEMIC HELP

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OFFICE HOURS:

Brandon Hirsch		
Office- Room 120 A	Thursday	8:30 a.m. to 12:00 p.m.
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Phone- 453-7212		
Email- bhirsch110@siu.edu		

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RAD 430-4
Radiation Therapy Clinical Internship II
Course Syllabus
Rick McKinnies

Course Description

This is the second clinical internship of a two-course sequence. A clinical practicum at a selected clinical education center in which the student functions under direct supervision and applies the knowledge gained in the classroom and Clinical Internship I. The student will practice and improve the professional skills developed the previous semester to include radiation therapy treatment, simulation and medical dosimetry. Students must receive a "B" or higher to successfully complete the radiation therapy specialization. Prerequisite: A grade of "B" or better in RAD 410 and RAD 420.

Course Objectives

1. Demonstrate competence in the following procedures: Patient Care, Simulation procedures, Dosimetry, Treatment accessories, radiation treatments, quality assurance procedures, and billing and coding procedures
2. Demonstrate an understanding in brachytherapy procedures.

Required Text and Materials

No new textbooks are required for this course however the Vann Review book is recommended. A student will need to have access to the Internet as Desire2Learn will be used.

Grading

A Course grade of a "B" or better is required in RAD 440 to successfully graduate from the radiation therapy specialization within the Radiologic Sciences program. The radiation therapy ARRT verification form will not be completed on a student without the Rad 440 minimum requirement being met. No late assignments will be accepted.

Growth Evaluations 50%

RAD 430 - Based upon 4th , and 7th week **Personal/Professional Growth Evaluations** found on page 23 of this Handbook

If a student receives two or more Growth Evaluations that are below an 80% during one semester; their continuation in the Radiation Therapy Program is at the discretion of the Program Director and Clinical Instructor. It is expected that all students consistently show progress in the development of their radiation therapy skills and always demonstrate a positive attitude. A grade of an "F" will be given for the semester in which the student is removed from the program.

Completion of Clinical Competency Forms 30%

Half the required competencies for each category must be completed for the summer semester.

All failed competency attempts must be turned in! If a student fails 7 competency attempts (any combination from all rotations) at any time throughout the program or 4 competency attempts (one specific competency), the student will be removed from the program.

For grading purposes, passing a competency on the second attempt, student will receive ½ credit; if passed on the third attempt, student will receive ¼ credit; if passed on the fourth attempt, student will receive 0 credit but will be required to have the competency.

Normal progress in all semesters must be demonstrated to continue on in the program. To achieve normal progress in the summer semester a student must have completed 7 successful competencies by the end of week four.

Student Clinical Evaluation 15%

Based upon completion of all sections of evaluation found on pages 51-57 of this Handbook

Journal 5%

Must make a weekly log and state how their clinical rotation is going and what new information was learned during the week. Post this “word” document every Friday to the Desire2Learn server. No late journal submissions will be accepted.

The grading scale for RAD 430 is:

- 93 - 100 = A — Exceptionally high achievement
- 85 - 92 = B — Satisfactory achievement
- 77 - 84 = C — Unsatisfactory achievement - removed from program
- 70 - 76 = D — Unsatisfactory achievement - removed from program
- Below 70 = F — Unsatisfactory achievement - removed from program

Any competency (performance standards), not completed will result in a semester grade of incomplete (**INC**). This incomplete **must** be completed in order to graduate from the program and receive their diploma.

If a student is removed from a clinical site for behavioral reasons, they must leave immediately and will not be allowed to continue the Radiation Therapy Program. If the student is removed for poor growth evaluations, failing competencies or not making satisfactory progress, a grade of an “F” will be given for the semester they are removed.

To successfully complete the program, one must receive a “B” or better for RAD 430.

At the end of this clinical semester the student must submit the following in a 3-hole binder with title page and dividers, in order:

1. Two (2) Personal/Professional Growth Evaluations are to be completed during the 4th and 7th weeks of the summer semester. The evaluation is found on page 23 of this Handbook
2. Completed and signed Radiation Therapy Clinical competency requirements. A specific evaluation sheet must be available for each competency. This information is found on pages 24-50 of this handbook. If you do not perform certain competencies, they must be simulated on a Therapist or mannequin. Include the completed summaries on pages 24-28. File the competencies in the order they are listed on the summary sheets.
3. Complete Student Clinical Evaluation found on pages 51-57 of this Handbook. (Dated and signed)
4. Completed and signed Clinical Time Sheet found on page 58 of this Handbook.
5. Completed Evaluation of Clinical Site found on page 59 of this Handbook.
6. Complete Journal document.

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3. Cheating by any method or means;
4. Knowingly or willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research;
5. Knowingly furnishing false information to a university official relative to academic matters;
6. Soliciting, aiding, abetting, concealing, or attempting acts of academic dishonesty.

ADA ACCOMMODATIONS:

In keeping with the goal of the implementation of the Americans with Disabilities Act (ADA), all students for whom this act applies should notify the instructor no later than the second session of the course so that arrangements can be made for accommodations to meet your educational needs and maximize learning.

RESOURCES FOR ADDITIONAL ACEDMIC HELP

Supplementary Assistance: With cooperation of SIU’s Disability Support Services (DSS), each student who qualifies for reasonable supplementary assistance has the right to receive it. Students requesting supplementary assistance must first register with DSS in Woody Hall B-150, (453-5738) or <http://disabilityservices.siu.edu/>

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OFFICE HOURS:

Rick McKinnies		
Office- Room 213A	Monday	8:30 a.m. to 11:30 a.m.
Building- CASA	Wednesday	8:30 a.m. to 11:30 a.m.
Phone- 453-7260		
Email- rmck@siu.edu		

Brandon Hirsch		
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Building- CASA	Friday	8:30 a.m. to 12:00 p.m.
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**RAD 440-2
Seminar in Radiation Therapy
Course Syllabus
Brandon Hirsch**

Course Description

This course is designed to prepare the student to challenge the American Registry of Radiologic Technologists Radiation Therapy exam. During this course, the student will take mock registry exams in the specialty of radiation therapy and go through review materials. A portion of this course is on-campus. Professional development is addressed. Students must receive a "B" or higher to successfully complete the radiation therapy specialization. Prerequisite: A "B" or better in RAD 420. Co-requisite: A "B" or better in RAD 430.

Course Objectives

1. To prepare the student to successfully challenge the registry exam.
2. Formulate strategy for professional development.

Required Text and Materials

The Vann Review book is required: <http://radiationreviewbook.com/>. A student will need to have access to the Internet as Desire2Learn will be used.

Grading

A Course grade of a "B" or better is required in RAD 440 to successfully graduate from the radiation therapy specialization within the Radiologic Sciences program. The radiation therapy ARRT verification form will not be completed on a student without the Rad 440 minimum requirement being met. No late assignments will be accepted.

Course grade will be based on the following:

	<u>Points</u>	<u>Percent</u>
First Mock Exam	5 points	5%
Second Mock Exam	5 points	5%
Third Mock Exam	5 points	5%
Fourth Mock Exam	5 points	5%
Fifth Mock Exam	10 points	10%
Resume	10 points	10%
Homework assignments	<u>60 points</u>	<u>60%</u>
Total Possible Points	100 points	100%

All mock exams must be completed within seven days of opening to receive full credit.

A = 100 - 93

B = 92 - 85

C = 84 - 77

D = 76 - 70

F = 70 and below

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RESOURCES FOR ADDITIONAL ACADEMIC HELP

Supplementary Assistance: With cooperation of SIU's Disability Support Services (DSS), each student who qualifies for reasonable supplementary assistance has the right to receive it. Students requesting supplementary assistance must first register with DSS in Woody Hall B-150, (453-5738) or <http://disabilityservices.siu.edu/>

Notice: If you have any type of special need(s) or disability for which require accommodations to promote learning in this class, please contact me as soon as possible. The Office of Disability Support Services (DDS) offers various support services and can help you with you with special accommodations. You may wish to contact DDS at 453-5738 or go to Room 150 at Woody Hall to verify your eligibility and options for accommodations related to your special need(s) or disability.

OFFICE HOURS:

Brandon Hirsch		
Office- Room 120 A	Thursday	8:30 a.m. to 12:00 p.m.
Building- CASA	Friday	8:30 a.m. to 12:00 p.m.
Phone- 453-7212		
Email- bhirsch110@siu.edu		

SIU EMAIL POLICY

Official SIU student Email Policy: <http://policies.siu.edu/policies/email.htm>

SIU Student Conduct Code: <http://policies.siu.edu/documents/StudentsConductCodeFINALMay32011.pdf>

SALUKI CARES

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress-physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. To make a referral to Saluki Cares click, call or send:
<http://salukicare.siu.edu/index.html>; (618) 453-5714. Or siucares@siu.edu

Has your life or the life of a friend or family member been affected by cancer? Here is your chance to make a difference in the lives of those fighting this disease. Radiation therapists are trained to administer

therapeutic doses of radiation to cancer patients. Through coursework, hands-on labs, and clinical experience, students learn to use gamma rays, x-rays, electrons, and protons to slow and stop the growth of cancer.

Our carefully-designed program is recognized by the American Registry of Radiologic Technicians (ARRT) and covers the science of radiation, treatment methods and patterns, disease progression and statistics, and nursing care for cancer patients. If you've felt helpless against this disease, this is your opportunity to help fight it. In year three of this JRCERT-accredited program, students are awarded an Associate of Applied Science in Radiography and sit for the radiography ARRT exam.

- [Admissions](#)
- [Costs & Financial Aid](#)
- [Meet Our Faculty](#)
- [Request Information](#)

[Visit SIU](#)

[Virtual Tour](#)

Degree Requirements

The Radiation Therapy degree specialization can be earned by fulfilling the [requirements for the Bachelor of Science degree](#).

- Total Degree Requirements: 120 credit hours
- University Core Curriculum: 39 credit hours
- Other Core Requirements: 2 credit hours
- Radiation Therapy Technology Core Requirements: 48 credit hours
- Radiation Therapy Technology: 31 credit hours



Check out the undergraduate [Curricular Guide](#) (PDF), which helps outline what courses you would want to take each semester for all four years. View all related [undergraduate courses](#).

See also: [Radiation Therapy Clinic Handbook](#) | [Master Syllabus](#)

Continue Your Education with a Master's Degree
Radiologic Sciences (M.S.)

For those interested in furthering their education and advancing their career, we offer a Master of Science in Radiologic Sciences. This degree program can be completed completely online. Earn your bachelor's, begin your career, and work toward your master's at your convenience.

Medical Dosimetry (M.S.)

We also offer a Master of Science in Medical Dosimetry. Students can build on their knowledge and learn to calculate and prescribe radiation doses, and design distribution schedules and plans of care. Graduates work with radiation oncologists and medical physicists, and are an integral part of the oncology team.

Accreditation

The Radiation Therapy program at SIU is accredited by the [Joint Review Committee on Education in Radiologic Technology \(JRCERT\)](#).

The Joint Review Committee on Education in Radiologic Technology



Excellence in Education 20 North Wacker Drive, Suite 2850

Chicago, Illinois 60606-3182

312-704-5300

mail@jrcert.org

www.jrcert.org

Program Starting Points

After you apply, your educational background will be reviewed, which determines the program's entry point. Below is a summary of the starting points and the qualifications considered for each.

Note: You may have a University standing of a freshman, sophomore, etc. classification, but your entry point is what the Radiography program classifies you as in this program.

Freshman (Year 1): The freshman spots are for those applicants that have no or very few college credits. Those applicants are ranked according to their high school GPAs. *(Up to 15 slots available.)*

Sophomore (Year 2): To be considered for a Year 2 slot, applicants must have completed or be currently in progress of the following courses:

- Anatomy
- Physics or Chemistry
- Math

During selection, points are given for the grades in the required courses. Points are given as follows: A=2; B=1; C=0; enrolled in course during spring term=0.5. The point total is added to the overall GPA. Total points are calculated and then ranked.

(The total amount of slots available are dependent on how many of the previous year's freshmen continue in the program; 20 max.)

Transfer Spot (Year 4): To be considered for a Year 4 spot, a student must have completed a Radiography program at another institution and be credentialed with the ARRT. Courses that will be reviewed for admission to the Radiation Therapy modality are:

- Radiography Physics
- Anatomy (If your Radiography program did not require anatomy and physiology, we will utilize your Radiography anatomy)
- Math

(The total amount of slots available is dependent on how many of the previous year's radiography students are on the Radiation Therapy track and pass their ARRT examination; 20 max.)

Program Mission

The mission of the Radiation Therapy Program offered by Southern Illinois University is to provide a quality program integrating education, research and service in order to meet the needs of the profession and improve health care of the people and communities we serve.

[Website Compliance Checklist](#) (PDF)

[JRCERT Award Letter](#) (PDF)

[Radiation Assessment Plan](#)(PDF)

[Program Effectives Data](#) (PDF)

Program Goals and Student Learning Outcomes

- **GOAL #1:** Prepare the student to practice as a competent entry level professional Radiation Therapist by offering a comprehensive curriculum and quality didactic/clinical instruction. (i.e. Clinical Competency)
- Student Learning Outcomes:
- SLO 1. Students will be clinically competent upon graduation
- Assessment Tool 1. Review of student clinical competencies.
- Assessment Tool 2. Graduates will pass Radiation Therapy certification exam on first attempt
Graduates will sit for ARRT certification exam the year following graduation.
- SLO 2. Employer indicates graduate was adequately prepared to perform as an entry-level dosimetrist.
- Assessment Tool 1. Employers will be surveyed approximately 6 months following graduation of student. Question 3.
- Assessment Tool 2. Employers will be surveyed approximately 6 months following graduation of student. Question 4.
-
- Assessment Tool 3. Employers will be surveyed approximately 6 months following graduation of student. Question 11.
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- Assessment Tool 4. Employers will be surveyed approximately 6 months following graduation of student. Question 16.
- **GOAL #2:** Provide avenues for students to develop and apply skills in effective communication necessary for successful radiation therapy practice. (i.e. Communication)

Student Learning Outcome:

- SLO 1. Students demonstrate effective communication skills.
- Assessment Tool 1. Growth Evaluations are performed during each clinical rotation. Final Growth Evaluation – Question 1
- Assessment Tool 2. Students will undergo a Mock Interview Assignment. Question 6
- Assessment Tool 3. Students will undergo a Mock Interview Assignment. Question 9
- SLO 2. Graduates demonstrate effective communication skills.
- Assessment Tool 1. Employers will be surveyed approximately 6 months following graduation of student. Question 13
- Assessment Tool 2. Employers will be surveyed approximately 6 months following graduation of student. Question 14

GOAL #3: Provide avenues for students to develop and apply skills in critical thinking and problem-solving necessary for successful radiation therapy practice. (i.e. Critical Thinking)

Student Learning Outcomes:

SLO 1. Students demonstrate effective problem solving and critical thinking skills.

- Assessment Tool 1. Students will undergo a Mock Interview Assignment. Question 8
- Assessment Tool 2. Growth Evaluations are performed during each clinical rotation. Final Growth Evaluation – Question 10

SLO 2. Graduates demonstrate effective problem solving and critical thinking skills.

- Assessment Tool 1. Employers will be surveyed approximately 6 months following graduation of student. Question 6
- Assessment Tool 2. Employers will be surveyed approximately 6 months following graduation of student. Question 7
- Assessment Tool 3. Employers will be surveyed approximately 6 months following graduation of student. Question 8

Admissions & Deadlines

The RADS program is a fall-only competitive admissions program.

Applications are accepted from July 15th to February 1st.

To be considered for full admission, students should apply for general admission to SIU Carbondale.

Contact Information

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