CARTI

RADIATION THERAPY PROGRAM

Student Handbook 2022-2023

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2022-2023 Handbook

Introduction:

The CARTI Board of Directors and colleagues welcome you to the CARTI Radiation Therapy Program. Radiation therapy is a unique and challenging field in the health care profession. The therapist, who sees the patient on a daily basis, is a critical link in the patient care process. In addition to the responsibility of operating some of the most sophisticated equipment in medicine today, therapists must be able to observe patients' clinical progress and recognize certain signs and symptoms experienced by their patients. It takes a very special person to provide this personal patient contact and manage the daily stress while maintaining clinical expertise. You are one of those special people. It is the responsibility of the CARTI colleagues to help you as a student learn about the interesting career you have chosen and the important role it plays in the care of the patient.

CARTI's mission is making trusted cancer care accessible for every patient we serve through compassion, innovation and purpose. CARTI is guided by the core values of **C**ompassionate Care, **A**bsolute Ownership, **R**esolute Teamwork, **T**ranscendent Purpose and **I**nnovative Approach. We began fulfilling that mission in 1976, when we opened our doors to what was then known as Central Arkansas Radiation Therapy Institute. As a single, centrally located radiation therapy treatment facility solely devoted to one modality of cancer treatment, our cancer treatment institution grew quickly. As a result of patient need, convenient radiation therapy treatment facilities were opened in North Little Rock, Conway, Searcy and Mountain Home.

In 2011, Central Arkansas Radiation Therapy Institute joined with Little Rock Hematology and Oncology (LRHO) and Hematology and Oncology Services of Arkansas (HOSA). This partnership, now CARTI, is the home of comprehensive cancer care in Central Arkansas—a multi-specialty, patient-focused cancer organization where some of the nation's most renowned cancer specialists and healthcare professionals work together to bring the fight to cancer. Providing a full-spectrum of diagnostic and treatment options for all types of adult cancers and blood disorders, CARTI offers the most advanced forms of medical\surgical oncology, diagnostic radiology and radiation therapy in the world.

While providing the best treatment available, we recognize it is our duty to also help remove the fear and uncertainty that can accompany any cancer diagnosis. Through the CARTI Foundation's Ray of Hope program, we offer financial assistance with housing, medicine, language translation, transportation, emotional counseling and cancer survivor retreats.

PROGRAM MISSION AND VISION STATEMENT

Our mission is to provide competent and compassionate entry level radiation therapists to meet the needs of today's changing healthcare community in an educational atmosphere of distinction.

Our vision is to be known for excellence in the education of radiation therapists producing graduates that are known to be influential in the profession and sought after on a national level.

Organization for the CARTI Radiation Therapy Program began in 1976. Upon submission of a self-study to the Joint Review Committee on Education in Radiologic Technology (JRCERT), we received program accreditation in 1979. The program continues accreditation with the JRCERT (https://www.jrcert.org/) and is licensed by the Department of Higher Education - Arkansas State Board of Private Career Education (https://www.adhe.edu//private-career-education). Program officials notify these agencies of changes in the content of the program.

CARTI has put the best components together in this program. It is our goal to provide you with the best education and experience available in the area of radiation therapy. As you continue in your education, you will acquire the skills, confidence and expertise needed to perform the functions of an entry-level radiation therapist.

PROGRAM GOALS

The program is based on student learning and program effectiveness goals and outcomes as outlined by the JRCERT. These goals are vital to the development of graduates who are prepared to enter the profession of radiation therapy as an entry level radiation therapist. The curriculum is based on didactic and clinical courses with the program identifying outcomes and benchmarks for each goal. Goals, outcomes and benchmarks will be reviewed during Orientation. This information is also available for review on CartiNet and at www.CARTI.com.

Student Learning Goals

1. Students will demonstrate clinical competence.
   1.1. Students will position patients as directed in treatment record/plan.
   1.2. Students will safely operate equipment to deliver prescribed therapeutic dose.
   1.3. Students will practice radiation safety.
2. Students will demonstrate the ability to communicate effectively.
   2.1. Students will display effective communication skills using verbal/written communication to provide patient care.
   2.2. Students will provide professional/public education related to radiation therapy.
3. Students will exercise problem-solving and critical thinking skills.
   3.1. Students will demonstrate the ability to make decisions and use independent judgment in determining appropriate patient positioning and immobilization.
   3.2. Students will demonstrate critical thinking in recognizing any complications and side effects associated with radiation therapy.
4. Students will demonstrate professional growth and development.
   4.1. Students will demonstrate work ethics (ex. Punctuality, professional appearance)
   4.2. Graduates will demonstrate personal responsibility and accountability.

Program Effectiveness Outcomes

5. Graduates will pass ARRT credentialing exam.
6. Graduates will successfully find employment in the field of radiation therapy.
7. Graduates will successfully complete the program.
8. Students will be satisfied with their educational experience.
9. Graduates will be satisfied with their preparation for the workplace.
10. Employers will be satisfied with graduate's performance.

PROGRAM OBJECTIVES

Following are the Program's objectives in providing a quality education for graduating entry-level radiation therapists:

- Establish and maintain an accredited program in radiation therapy.
- Provide program access to all qualified individuals within program capacity.
- Provide qualified instructors who are current in their area of expertise.
- Commit the financial resources necessary for development, improvement, and continuation of the program.
- Continue updating and evaluating the effectiveness of the program through feedback from graduates and graduate employers, as well as ongoing program outcomes assessment.
- Provide the student with didactic and clinical education which will enable them to fulfill the job description of an entry level staff radiation therapist.
- Provide and promote quality service to radiation therapy patients.
- Enable the student to grasp clearly and skillfully the technical and theoretical knowledge and practices necessary for competency as a graduate of a radiation therapy program.
- Encourage an interest in and a desire for professional growth and life-long learning.
- Provide job placement assistance for students, hospitals, radiation therapy facilities and organizations.
- Graduate educated, competent and compassionate, entry level radiation therapists who can practice within the Code of Ethics, the Scope of Practice and the Practice Standards of the American Registry of Radiologic Technologists and the American Society of Radiologic Technologists.

CARTI Radiation Therapy Program Graduates presently have a 5 year average of 100% credentialing examination 1st time pass rate within 6 months of graduation.

PROGRAM EDUCATION SITES

CARTI Cancer Center:	8901 CARTI Way, Little Rock, AR 72205 501-907-8341 **Didactic and Clinical**
CARTI Conway:	2605 College Avenue, Conway, AR 72034 501-329-4741 **Clinical**
CARTI North Little Rock:	3400 Springhill Drive, North Little Rock, AR 72117 501-906-2897 **Clinical**
CARTI Searcy:	405 Rodgers Drive, Searcy, AR 72143 501-268-7870 **Clinical**
CARTI Pine Bluff:	5001 Bobo Road, Pine Bluff, AR 71603 870-939-4257 **Clinical**

System wide, there are approximately 25 registered radiation therapists that staff the CARTI clinical facilities. They instruct and supervise the students on a one-to-one basis in practical application of clinical radiation therapy and represent a broad cross section of expertise in radiation oncology.

CARTI RADIATION THERAPY EQUIPMENT

Linear Accelerators
5 Varian TrueBeam
1 Varian TrueBeam STX
1 Varian VitalBeam
1 Accuray Cyberknife

Surface Guided Technology
Varian Identify

CT/Simulators
5 Phillips Large Bore Brilliance 16
2 Siemens SOMOATOM SCOPE

Brachytherapy
Varian Bravos HDR

Treatment Planning
Eclipse Treatment Planning Systems
Phillips SMART ENTERPRISE work stations
MMS VARISEED COMPUTER
MIMSVISTA 7.2.3 fusion/contouring work stations

LIBRARIES

The CARTI Radiation Therapy Program will maintain a limited up-to-date reference library. Materials will be monitored annually by program officials for needed updates, removal of outdated references, and ordering of current reference materials. Reference materials listed on the JRCERT Radiation Therapy Registry Review Reference Resource Guide and the ASRT Radiation Therapy Resources will be considered as a guide for keeping the library materials current.

PROCEDURE:

1. All materials will be reviewed at the end of the program year for needed updates, removal of outdated references, and ordering of current reference materials.
2. New references received will be marked with the School stamp for identification.
3. Library list will be updated for student's use and program files.

Procedure for students or CARTI colleagues' use:

The student should notify a program official if reference material will be removed from the library area.

VERT

This 3D simulated radiotherapy environment will be used for the following:

1. Demonstrate and explain concepts in real time
2. Evaluate students on basic skills and patient setups
3. Laboratory exercises

PROGRAM REQUIREMENTS AND GENERAL POLICIES

Program requirements and general policies stated in this handbook require continuing evaluation, review, and approval by program officials. All statements contained herein reflect policies and requirements in existence at the time this handbook was printed and are expected to remain in effect throughout the program year. CARTI and program officials reserve the right to change tuition, policy and procedures and regulations described herein without prior notification.

For policies not stated in the Student Handbook or program administrative policies, program officials have the right to defer to the CARTI Administrative policies. All policies are available for student review on CartiNet, the in-house intranet.

DISCRIMINATION STATEMENT

It is CARTI Radiation Therapy Program policy to provide an environment free from discrimination. Students have the right to be educated in an atmosphere that does not discriminate based on creed, race, religion, color, sex, age, disability, national or ethnic origin, or any other protected characteristic as established by law.

CARTI Radiation Therapy Program does not discriminate on the basis of creed, race, religion, color, sex, age, national or ethnic origin, or disability in its administration of educational policies, program or admission policies, or faculty and staff.

Program Director has overall responsibility for this policy and maintains reporting and monitoring procedures. All complaints concerning any policy, procedure, or action taken that warrants such discrimination should be addressed to the program director.

ANTI-HARRASSMENT AND DISCRIMINATION

It is the policy of CARTI Radiation Therapy Program to provide an educational atmosphere free from harassment, and this policy applies to all students. Harassment is a form of misconduct. All students have the right to learn in an environment free from harassment based on creed, race, color, religion, sex, age, national origin, disability and any other protected characteristic as established by law. CARTI Radiation Therapy Program will not tolerate offensive or inappropriate sexual behavior. All students must avoid any conduct that could be viewed as sexual harassment, including:

1. Unwelcome sexual advances, including:
   a. Unwelcome requests for dating.
   b. Requests for sexual acts or favors.

2. Verbal abuse of a sexual nature, including:
   a. Sexual related comments or joking.
   b. Graphic or degrading sexual comments about one another's appearance.

3. Nonverbal abuse of a sexual nature, including:
   a. Suggestive or insulting noises, leering, whistling or making obscene gestures.
   b. Displaying sexually suggestive objects or pictures.

4. Physical conduct of a harassing nature including:
   a. Inappropriately touching or brushing the body of another.

5. Any other verbal, nonverbal or physical conduct of a harassing nature.

Harassment based on race, creed, color, religion, sex, age, national origin and disability includes any conduct that demeans, insults or intimidates a student because of their race, creed, color, religion, age, national origin, and disability. Prohibited conduct includes, but is not limited to, jokes, labels, names, verbal abuse, ridicule, or stories offensive to a person or particular group of persons.

If you believe you have been harassed or have witnessed harassment by anyone including supervisors, someone employed or not employed by CARTI, or patients, you should immediately report the problem to the Program Director.

Your complaint will be promptly investigated. You will be advised of the findings and conclusions. All students are expected to cooperate fully in such investigations. To the extent feasible, all internal investigations and/or such actions taken to resolve complaints are confidential. Discrimination or retaliation against any student for making a report under this policy or for providing information during the investigation is strictly prohibited. Any student who violates this policy will be subject to appropriate discipline.

PHYSICAL ACCOMMODATIONS

The program is committed to complying with all applicable provisions of the Americans with Disabilities Act (ADA). It is program policy not to discriminate against any qualified applicant or student with regard to any terms or conditions of acceptance or graduation because of such individual's disability as long as they can perform the essential functions as identified in the program's Physical Requirements. Consistent with this policy of nondiscrimination, the program will provide reasonable accommodations to a qualified student with a disability, as defined by the ADA, who has made the program aware of his or her disability, provided that such accommodation does not constitute an undue hardship.

Students with a disability who believe they need a reasonable accommodation to perform the essential functions of the educational program should contact the Program Director. The program encourages students with disabilities to come forward and request reasonable accommodation. Procedure for requesting an accommodation will follow the CARTI institutional policy.

SAFETY AND EMERGENCY PROCEDURES

It is of major importance to CARTI to provide a safe and secure environment for its students, patients and colleagues. An overview of CARTI Emergency and Safety policies including radiation safety and MRI safety will be discussed during orientation.

Students are required to complete the emergency and safety education and testing prior to first clinical assignment. Additionally, the Physics department will conduct 7 hours of didactic instruction in radiation safety to include a machine safety lab.

Patient Care classes, lectures and demonstrations will be conducted in the first semester concerning the correct method of lifting and moving of patients and equipment. If the student is injured, causes injury to anyone else whether patient or staff or witnesses an injury, an incident/accident form must be completed immediately. This applies no matter how minor the incident may be. A Colleague Variance Report form is available under FORMS tab on CartiNet.

Fire, Disaster, Emergency and Safety Plans

Policies outlining fire, disaster, emergency and safety regulations are available on CartiNet and at each facility. It is the student's responsibility to become familiar with its contents.

Safety is everybody's job. Every accident, however slight and regardless of whether or not there is an injury involved, must be reported immediately to the Program Director or other program official so that it may be investigated and the causes corrected.

We also have an obligation to prevent and eliminate conditions that are potentially hazardous. If you notice an unsafe condition, or suspicious actions of students or CARTI personnel that could lead to theft or vandalism, report it to the Program Director or other program official.

Other incidents inconsistent with the routine operation of the center should also be reported on an Incident Report form.

Contingency Plan

In the event (i.e fire, disaster, pandemic, emergency, weather, etc.) it becomes evident that students will not be able to attend clinic or class safely for an extended period of time (i.e. 3 consecutive class days or 4 consecutive clinic days), program officials will coordinate and communicate with students following the below procedure:

Equipment:

- Program officials will confirm during orientation that all students have smartphone/cellphone capabilities (required)
- Computer/tablet with browsing capability (recommended)
- If PPE is required upon the students return to class or clinic the program officials and/or clinical staff will provide it.

Communication Procedure:
• All outgoing communication will be conducted via a messaging application downloaded to a smartphone device (i.e. GroupMe) and/or a group SMS for cellular devices
• A daily update will be provided by Program Officials by 5pm CST

Didactic Classes:
• CARTI provides Radiation Therapy Didactic Instructors with access to virtual meeting space (i.e. Microsoft Teams)
• At the discretion of program officials, in the circumstance the safety of students are at risk, the program will pivot to online instruction for a period of time until the safety risk is neutralized.

The CARTI Radiation Therapy Program will strictly follow all guidance as directed by the CARTI Leadership team as it relates to returning back to campus in a safe and effective manner.

Security

A secured area for personal items is provided at each clinical site. The Clinical Supervisor at each clinical site will orient the student to this location. Lockers are provided adjacent to the classroom and will be assigned during orientation. Students are responsible for furnishing their own lock. If you have lost an item, please alert program officials so a report can be completed and an investigation conducted. The student may be asked to complete forms and have interviews with security officials.

The Facility Maintenance Manager is responsible for security at CCC. Student Clinical Supervisors at each clinical site are responsible for student's security and should be notified of any incidents. If a student observes a "stranger" in an unauthorized area, they should report it immediately to CARTI officials. During orientation, students will be provided current security education and post-testing on CartiNet.

MRI Safety

It is the CARTI Radiation Therapy program's objective to maintain a safe learning environment for all students. All students are required to complete MRI Safety Training module and successfully complete MRI Safety Training Post Test with a minimum score of 80% as well as complete MRI screening form prior to clinical assignment to any facility that houses an MRI scanner.

Each student will review and acknowledge any contraindication or safety risk that could endanger the student and would prevent the student from participating in MRI clinical setting. If a contraindicated risk is identified, student will **not** be assigned to MRI clinical setting during the completion of the 12 month program. Students are mandated to notify program officials of any change in status regarding contraindications or risks.

"Declared" pregnant students will be restricted from participating in educational activities within the 10 Gauss line. Declaration of pregnancy is voluntary and can be rescinded at any time. The declared pregnant student may attend the MRI clinical setting but will not provide direct patient interaction within the 10 Gauss line. The declared pregnant student will be allowed to participate in objectives and activities outside of the room and at the operating console in the MRI clinical setting.

RADIATION BADGES

Radiation safety requirements are outlined by the Division of Radiological Health, Arkansas State Board of Health. Radiation monitoring badges are furnished for each radiation therapy student. **Students are required to wear their radiation badge at all times while in the clinical or radiation areas.**

Failure to wear the badge must be reported to the radiation safety officer immediately (See Progressive Discipline Policy). The care and treatment of these badges is the student's responsibility. Loss or damage to the film badge **must also be reported immediately** to the radiation safety officer and program official so that an appropriate plan of action can be taken to replace the badge.

Prior to program start date, students complete a form to request their previous radiation monitoring records. This record will be maintained in the student's radiation monitoring file. Exposure to radiation is minimal in radiation therapy, the radiation safety officer reviews bi-monthly monitoring reports and sends reports to program director for students to review. The reports are kept on file by the radiation safety officer and are available for student review at any time.

RADIATION EXPOSURE MONITORING

Radiation monitoring badges are issued to all students since they must enter controlled radiation areas where there is the possibility of receiving 10% of the maximum permissible dose. Limits for occupational exposure are as follows: skin and extremities 0.5Sv, eyes 0.15Sv, and whole body 0.05Sv.

Pregnant students who voluntarily declare their pregnancy should do so by completing the Declaration of Pregnancy form located on CARTI Shares: G:\Files for all CARTI Employees\Radiation Safety. In the absence of this voluntary, written disclosure, the student will not be considered pregnant. Women who declare their pregnancy will be issued a separate fetal radiation badge. (See attachment – State Regulation RH-1207). The exposure limit for fetuses is 5 mSv during the pregnancy and 0.5mSv per month.

Procedures:

1. Controlled radiation areas are so designated by the RSO. They are areas where potential radiation exposures exist due to the presence of radioactive sources or the operation of radiation-producing machines. The Arkansas State Department of Health regulations are followed in determining controlled radiation areas.
2. Radiation monitoring badges are issued by the RSO's office. Student information, including birth date, social security number, and previous radiation exposure history is required for record keeping purposes and is maintained in a secured area.
3. Radiation monitoring badges must be worn in controlled areas. They should be worn at neck or chest level, with the student's name facing forward (away from the body).
4. Luxel badges are exchanged and processed bi-monthly.

5. Badges inadvertently exposed to radiation (i.e., left in the treatment area), laundered, or exposed to the elements, (rain, heat, etc.) are to be reported immediately. If necessary, they may be collected for immediate return and a temporary radiation monitor issued until a replacement is obtained.
6. Exposure reports are received bi-monthly and reviewed by the RSO. Any dose over the Quarterly Limit of ALARA 1 and 2 will trigger an investigation.

	Quarterly Limits	
	ALARA 1 (mrem) 10% Annual	ALARA 2 (mrem) 30% Annual
Whole Body	125	375
Extremities	1,250	3,750

7. If a student receives an exceptional dose, the following procedure would be put into action:
    a. The student would be notified in writing of the exposure and placed on clinical leave, until resolution of the issue. The student may continue to attend didactic classes in the interim.
    b. An investigation into the exposure will be conducted by the RSO and Program Director and a Report of Findings provided to the student within three (3) business days.
    c. The student will only be allowed to continue clinical instruction after the completion of the report and if the dose does not exceed the maximum dose for the time period.
    d. The Report of Findings will include a review of the current practices is completed to help identify any areas for improvement.
    e. A review of the report will be conducted by the Safety committee at the next regularly scheduled meeting.
    f. Documentation of the incident will be placed in the student's permanent file.
8. Permanent records of all students' radiation exposure are maintained in the Radiation Safety Office. This information will be provided to the student within 30 days of the RSO receiving it, and will also be available to the student at any time upon request. Personnel exposure records are released to other individuals or institutions only by written authorization of the student.

PREGNANCY REPORTING

If the student is pregnant or suspected pregnant, the student has the option to:

- Voluntarily declare their pregnancy by completing the Declaration of Pregnancy form located on CARTI Shares: G:\Files for all CARTI Employees\Radiation Safety. This will provide information for additional monitoring and possible alteration in the student's clinical education. This declaration is voluntary and may be withdrawn at any time. Women who declare their pregnancy will be issued a separate fetal radiation badge. (State Regulation RH-1207). The exposure limit for fetuses is 5 mSv during the pregnancy and .5mSv per month.

OR

- Not to inform Program Director/Clinical Coordinator and Radiation Safety Officer about the pregnancy or suspected pregnancy. If the student chooses not to voluntary inform the above individuals in writing, the student will not be considered pregnant.

If the student voluntarily informs the Program Director and Radiation Safety Officer in writing about the pregnancy, the Program Director will discuss the following options with the student:

- Continue the Program without any change, modification or interruption in the Program sequence.
- Provide written withdrawal of previously submitted pregnancy declaration at any time.
- Modify or interrupt clinical education assignments, which would have to be completed before Program graduation could occur.
- Leave of absence from clinical assignments (attend didactic education only). Clinical assignment would have to be completed before Program graduation could occur.
- Leave of absence from the current year to later be eligible to interview for the next year's program after the pregnancy.

Each case will be handled individually based on the student's needs and preferences. Options and length of time off or program modification will be determined on factors that include:

- If the education can be made up during the Program year.
- If the student will extend the Program time.
- If the entire Program will need to be started from the beginning.

STUDENT COUNSELING

Counseling is available to all students enrolled in the program and is available and paid through CARTI's Employee Assistance Program. Counseling of any nature is confidential between the counselor and the student, unless what is revealed is or has been a violation of a program rule, policy or safety of a patient, staff or student. If it is a violation, the counselor, student, Medical Director, and Program Director will meet to discuss the problem and try to resolve. In some cases, the Progressive Discipline Policy will be initiated.

INSURANCE

CARTI provides students with medical liability insurance and an accidental insurance policy, which includes medical expense, dismemberment and death benefits. Health insurance is not provided, but students are encouraged to obtained health insurance while they are students in the program

STUDENT RECORDS AND PRIVACY

The CARTI Radiation Therapy Program complies with federal and state laws in protecting the privacy of student records, including the Family Education Rights and Privacy Act of 1974 (FERPA). The program gives assurance that student information will be safeguarded against improper disclosure. It also provides students the right to inspect and review their educational record. The program retains student records, both academic and non-academic in accordance with retention schedule. The program assures that student records will be destroyed in a way that maintains confidentiality. Verification of program completion and official transcripts are provided to the student free of charge. A notice of this policy is published each year in the Student Handbook which is available on the program's website (www.carti.com).

Privacy and Protection of Student Records

The following procedures will be followed:

- Information gathered on students will be used only to further a student's education
- Public information is generally available to the public; students may prevent the release of public information outside the program by submitting a written request to the Program Director at any time.
- No private information will be released to the public unless the student specifically requests in writing that such information be released. Consent must be signed, dated and specify which records are to be disclosed, to whom and for what purpose.
- All student educational records may be subject to subpoena
- Student records are kept in a locked file cabinet in program official's office at the CCC.
- Files of the current and previous four years are stored in fireproof file cabinet.
- All electronic student records are password protected.

Public Information includes:

- Name of student
- Enrollment status
- Dates of attendance in the program- admission and graduation dates
- Type of award
- Private Information is not available to the public without student's written release.

Private Information includes but is not limited to:

- Student address, telephone number, or email address
- Date of birth
- Social Security Number
- Academic information, including transcripts and grades
- Recommendation information
- Evaluations
- Student financial information
- Background information obtained during admissions process
- Counseling records

- Suspension or probation status
- Other personal information not listed in this policy.

Private information may be released by program officials without written consent by the student in specific situations:

- Students requesting information about themselves
- Appropriate program officials within the institution who have a legitimate educational interest (i.e. Radiation Safety Officer needs date of birth to obtain exposure records)
- Court order if necessary
- Protect the health and safety of the student or other persons in connection with an emergency
- Accrediting organizations to carry out accrediting functions

In the event that private information is released by program officials without written consent by the student, the program will maintain documentation of requests and disclosures. The record shall include, whether requests are granted or not, the name(s) of the person(s) who requested the information and their legitimate interests in the information. Records of requests and disclosures will not be maintained for: (1) requests made by the student him/herself; (2) requests for which the student has given written consent; (3) requests made by program officials with legitimate educational interests; or (4) requests for directory information.

Students Rights Related to Records

Under the direction of the Program Director or Clinical Coordinator, students have the right to inspect and review their education records. The program is not required to allow inspection and review of confidential letters and statements of recommendation for which the student has signed a waiver of the right to access. If an education record contains information on more than one student, the student may inspect only the information about himself or herself.

Students have the right to request an amendment of the student's education record that they believe is inaccurate, misleading or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask the program to amend a record should make the request in writing to the Program Director and specify what needs to be changed and why it should be changed. If the program decides not to amend the record as requested by the student, the Program Director will notify the student in writing of the decision and the student's rights regarding the request.

Students have the right to file a complaint with the federal government concerning the program's failure to comply with FERPA. The student must submit the complaint, in writing, to the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, D.C. 20202-5920, (http://www.ed.gov/policy/gen/guid/fpco/ferpa/students.html).

STUDENT RECORD RETENTION SCHEDULE

Complete student record will be retained for 5 years. At the end of 5 year period non-permanent information will be disposed in a proper manner and permanent records retained indefinitely. In addition, at the end of 5 years, the files for applicants who were denied admission or who refused offer of admission are disposed of.

Permanent records consist of but are not limited to the following:

- Final transcript
- Treatment competency form
- Task competency form
- Nursing document including vital sign assessment, oxygen and patient transfer competency assessment form
- Immunization record
- Radiation exposure information
- Financial aid information
- Grievance records
- Disciplinary documentation
- Incident reports
- Student information release requests and consent authorizations or denials

Non- permanent records consist of but are not limited to the following:

Admissions applications and supporting documentation

- Academic transcripts from other institutions
- Letters of reference
- Standardized examination reports
- Time and attendance documentation/forms
- Monthly report cards
- Examinations/quizzes
- Homework records
- Evaluations

PROGRESSIVE DISCIPLINE

Unacceptable actions/practices are classified into three (3) levels according to the degree of severity. Each level carries a point value. Students accumulating a total of three points will be subject to dismissal from the program. This Progressive Discipline Policy is in effect any time the student is at the program or program related activities where they represent CARTI and the program. Any deviation from expected conduct may result in the progressive discipline policy being invoked.

First level offenses (*1 point per occurrence*) are actions/practices which are subject to a verbal counseling at the first occurrence. The purpose of the counseling will be to impress upon the student the need for immediate corrective action. Any verbal counseling will become a permanent part of the student's record.

Examples of a first level offense include but are not limited to:

- Excessive tardiness (more than five per semester)
- Excessive absenteeism over allotted days (more than two episodes per semester).

- Inappropriate attire, as defined in Professional Image. (more than one per program year)
- Recurrent incidents of losing, destroying or not wearing a film badge. (more than one per program year)
- Recurrent incidents of failure to return promptly after lunch, breaks or other periods of authorized absence. (as identified in the student tardy policy)
- Minor property damage due to negligence or carelessness (less than $500.00).
- Failure to follow any specific program policy or procedure at CARTI as determined by program officials.
- Failure to cooperate or maintain good relationships with faculty, therapists, physicians, fellow students, and CARTI colleagues, as determined by program officials. (more than one per program year)
- Inefficiency or lack of application of effort as determined by program officials.
- (Example: not coming adequately prepared for class, sleeping during educational time)
- Recurrent failure to appropriately clock in and out. (more than two per clinical rotation)
- Failure to immediately/appropriately complete leave requests.
- Failure of spot check
- Failure of 2 didactic/clinical examinations per semester.

Second level offenses (*2 points each*) are unacceptable action/practices that result in a written counseling that will become a part of the student's permanent record. Any second level offense constitutes probation from the program, as determined by program officials. Two second level offenses or two of the same second level offense may warrant a third level offense.

Examples of second level offenses include but are not limited to:

- Failure to aid any patient or visitor, if such service is within the normal scope of the Student's ability.
- Negligence or carelessness in performance in the clinical area, as determined by program officials.
- Lying or misrepresentation of facts.
- An unexcused absence.
- Failure of a didactic class within a course. Exception: any class that consists of 4 or fewer contact hours.
- Failure of a clinical rotation.
- Failure of any Final.

Third level offenses (*3 points each*) include actions/practices of such a serious nature that a first occurrence may warrant an immediate dismissal from the program.

Examples of third level offenses include but are not limited to:

- Willful or negligent failure to render service to a patient that results in injury to the patient either physical or mental.
- Unauthorized possession, falsification, use, copying or revealing of confidential information concerning CARTI patients, business or activities.
- Intentional violation of a safety rule or practice.

- Immoral conduct or indecency while at CARTI as determined by program officials.
- Theft, misappropriation or unauthorized possession or use of property belonging to any CARTI colleague, visitor, patient, physician, business associate or CARTI.
- Willful damage to property of CARTI.
- Possession of any weapon or potentially lethal instrument on CARTI property.
- Assault or fighting on CARTI property.
- Insubordination to any program staff member.
- Possession or consumption of intoxicants or drugs while at school or reporting to school under the influence of drugs or intoxicants.
- Failure to pass any course.
- Failure to immediately report suspected or confirmed communicable diseases to the Program Director.
- Failure to follow additional monitoring requirements as assigned by the Radiation Safety Officer or program modifications after voluntarily notified by the student of pregnancy.
- Falsification of any program information.
- Cheating on educational assignments including but limited to exams
- Non-reporting of conflict of interest.

STUDENT GRIEVANCE PROCEDURE

The following procedures are required to initiate a grievance.

I. A student will make a full statement of grievance in writing of any violation, misinterpretation, or inequitable application of any existing policy, procedure or regulation to the Program Director.

II. Program Director will have three (3) business days in which to resolve the grievance and to furnish the student with a written decision setting forth such resolution.

III. Should a student fail to agree with the decision of the Program Director, they may implement either of the following procedures within five (5) business days:

a. Student may submit a written appeal regarding the decision of Program Director to Medical Director who will resolve the grievance and furnish the student with a written decision within three (3) business days, setting forth-such resolution.

OR

b. Make a request in writing to Program Director for a formal hearing before a Grievance Committee consisting of the following persons: Medical Director, Program Director, and a person chosen by the student who is on the staff at CARTI. Program officials will organize a formal hearing within five (5) business days. Following such a hearing the Grievance Committee will make a recommendation in writing within three (3) business days of the hearing to the Vice President of CARTI and to the student. If the student doesn't agree with the Grievance Committee's recommendations, they will have three (3) business days to request in writing to have a private meeting with the Sr. Vice President of Radiation Oncology of CARTI. The Vice President has five (5) business days to schedule such meeting. The Vice President will review recommendations and accept, reject or modify such recommendations within three (3) business days of receipt from the Committee and\or meeting with the student.

IV. It is the intent of this procedure that no grievance should be presented by any student except in the manner set forth above. In the absence of the Program Director, a student may request assistance from the Student Clinical Coordinator in formulating a grievance. Such grievances should then be presented in the manner set forth above when the Program Director becomes available. In the event of an extended absence of the Program Director, a grievance may be presented directly to the Medical Director and if the Medical Director deems that an emergency exists, the Medical Director may attempt to resolve the grievance in the manner set forth above. If, however, the Medical Director determines that no emergency exists, the resolutions of the grievance shall be held in abeyance until the Program Director is available.

V. If the complaint or allegation is concerning:

a. Non-compliance of a JRCERT Standard and the above avenues prove unsatisfactory in the resolution of the grievance, the student may make a complaint in writing directly to the JRCERT. The JRCERT will respond following their policy and procedure number 80.000. JRCERT is located at 20 N. Wacker, Suite 900, Chicago, IL 60606-2901. They may be contacted at (312) 704-5300, e-mail, mail@jrcert.org or www.JRCERT.org.

b. Non –compliance of SBPCE regulations and the above avenues prove unsatisfactory in the resolution of the grievance, the student may make a complaint in writing directly to Arkansas State Board of Private Career Education. Their office address is 423 Main Street, Suite 400, Little Rock, AR 72201, telephone 501-317-2000 or website www.adhe.edu/private-career-education.

c. Non-compliance for FERPA regulations and the above avenues prove unsatisfactory in the resolution of the grievance, the student may make a complaint in writing directly to the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, D.C. 20202-5920, http://www.ed.gov/policy/gen/guid/fpco/ferpa/students.html.

VI. The program will maintain a record of the student's formal grievance, resolution of grievance including assurance that no trend exists that would negatively affect the quality of the program. Considered a part of the student's permanent record, this documentation will be kept indefinitely according to Student Record Retention Schedule. Discrimination or retaliation against any student for filing a grievance under this policy or for providing information during the investigation is strictly prohibited.

Complaints

Program officials address any complaints apart from those that require invoking the grievance procedure on a case by case basis. Complaints regarding clinical and didactic education are documented in Clinical Instructor and Didactic Instructor Evaluation databases respectively. These databases are reviewed on a monthly and annual basis to spot trends or patterns that could have a potential negative affect on the quality of the program.

PROBATION/DISMISSAL

CARTI reserves the right to dismiss or put on probation a student at any time on grounds the program officials' judge to be appropriate as based on policies and following the Progressive Discipline Policy. Each student by his own admission to the program recognizes this right of the program officials.

PROGRAM CURRICULUM 2022-2023

The curriculum for the radiation therapy program is designed to provide students with the theory, technical skill and patient care techniques, which are essential for the simulation, treatment planning and treatment delivery by entry-level Radiation Therapists. Students will learn how to apply their knowledge and use a variety of equipment to deliver prescribed treatments of ionizing radiation.

Semester One - Fall

COURSE	CLASS TITLES	CONTACT HOURS
Orientation To Radiation Therapy	Handbook, Intro To Radiation Therapy, Organization e-Learnings	32.5
Principles And Practices 1	Law And Ethics, Corporate Compliance, Lymphatics, Imaging, Treatment Procedures	32
Patient Care In Radiation Therapy	Inf Control, Nutrition, Chemotherapy, Pt Assessment, Pharmacology, Psychology	32
Radiation Oncology 1	Pathology, Skin, Lymphoma, Lung, Endocrine, Head And Neck, Bone/Soft Tissue, Leukemia	48
Radiation Physics 1	Essential Physics Concepts, Basic RT Physics, Interactions, Radiation Safety, Measurements, Machine Operation	64
Clinical Practicum 1	Competencies, Professional Evaluations, Semester Clinical Final And Lab	384

Semester Two - Spring

COURSE	CLASS TITLES	CONTACT HOURS
Principles And Practices 2	Chart Coding, Record & Verify, Cross-Sectional Anatomy, Topography, Research, Sr. Presentations	32
Radiation Biology	Radiation Biology	24
Radiation Oncology 2	Breast, GU, Male Repro, PEDS, Emergencies, Palliation, Eye, CNS, GYN, GI	48
Radiation Physics 2	Dosimetry, Electrons, Treatment Planning, Review Of Essential Physics Concepts	64
Clinical Practicum 2	Competencies, Professional Evaluations, Semester Clinical Final And Lab	384

Semester Three - Summer

COURSE	CLASS TITLES	CONTACT HOURS
Principles And Practices 3	Summation	32
Quality Assurance	Quality, Human Resources, Operations	16
Radiation Physics 3	Brachytherapy, Rad Calc, Essential Physics Concepts	32
Clinical Practicum 3	Competencies, Professional Evaluations, Semester Clinical Final	336

YEAR TOTALS	**1560.5**

COURSE DESCRIPTIONS

Required General Education Prerequisites

Human Anatomy and Physiology

The course will include terminology and organization of the human organism at the cellular, tissue and organ levels. A general introduction of the functional integration of the body systems will also be included. Structure and function of human systems including integumentary, skeletal, muscular, nervous, endocrine, sensory, circulatory, respiratory, digestive, urinary and reproductive will be covered. To facilitate understanding, a laboratory section is recommended.

General Physics

This course will include the application of physical principles, conservation laws, gravitation, electricity, magnetism, wave motion, heat and thermodynamics as it relates to scientific principles. The course should establish a basic knowledge of physics pertinent to developing an understanding of radiation. Fundamental physical units, measurements, principles, atomic structure and types of radiation are discussed.

College Algebra and Trigonometry or Pre-Calculus

These courses will include a study of the real number system, algebra of sets, exponents, equations and inequalities, polynomial functions, graphing, radical expressions, operations, inverses of function, equations of lines and systems of linear equations and elementary statistics, logarithmic and trigonometric functions and their applications, and plane analytic geometry.

Required Radiation Therapy Courses

Semester I Fall

Orientation to Radiation Therapy

The course will provide student with an overview of the foundations in radiation therapy and the practitioner's role in the health care delivery system. Principles, practices and policies of the educational program, health care organizations, radiation and health safety and professional responsibilities of the radiation therapist will be discussed and examined.

Patient Care

The course will provide the student with foundation concepts and competencies in assessment and evaluation of the patient for service delivery. Psychological and physical needs and factors affecting treatment outcome will be presented and examined. Routine and emergency care procedures will be presented.

Principles and Practices I

Course is designed to provide an overview of cancer and the specialty of radiation therapy. The historic and current aspects of cancer treatment will be covered. The roles and responsibilities of the radiation therapist will be discussed. In addition, treatment prescription, techniques and delivery will be covered. Content is designed to establish a

foundation in the standardized language of medical practice, including its abbreviations and symbols. A word-building system will be presented preparatory to reading, understanding, interpreting and applying physician prescriptions to radiation therapy and related services. Course will also provide sequential development, application, analysis, integration and evaluation of ethical concepts and theories as they relate to radiation therapy practice. It will also develop and use problem solving and critical thinking skills in discussion of the sources of law, causes of action and litigation processes related to the professional practice of radiation therapy. The inter-relatedness of standards of care, law, ethical standards and competence will be examined. In addition, a knowledge base in factors that govern and influence the production and recording of radiographic images for patient simulation, treatment planning and treatment verification in radiation oncology will be examined. Radiation oncology imaging equipment and related devices will be emphasized.

Oncology I
The course will introduce concepts related to the disease process. An emphasis on etiological considerations, neoplasia and associated diseases in the radiation therapy patient should be presented. The course is designed to examine and evaluate the management of neoplastic disease using knowledge in arts and sciences, while promoting critical thinking and the basis of ethical clinical decision making. The epidemiology, etiology, detection, diagnosis, patient condition, treatment and prognosis of neoplastic disease will be presented, discussed and evaluated in relationship to histology, anatomical site and patterns of spread. The radiation therapist's responsibility in the management of neoplastic disease will be examined and linked to the skills required to analyze complex issues and make informed decisions while appreciating the scope of the profession.

Radiation Therapy Physics I
The course will establish knowledge of physics pertinent to developing an understanding of radiations used in the radiation therapy clinical setting. Fundamental physical units, measurements, principles, atomic structure and types of radiation are emphasized. Also presented are the fundamentals of x-ray generating equipment, x-ray production and its interaction with matter. Course is also designed to present basic principles of radiation protection and safety for the radiation therapist. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated. Specific responsibilities of the radiation therapist are discussed, examined, performed and evaluated.

Clinical Practicum I The course will provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide care to the patient in the therapeutic setting for simulation, treatment planning and administration of a prescribed course of treatment. Levels of competency and outcomes measurement shall assure the well-being of the patient preparatory to, during and following delivery of radiation therapy treatment and services.

Semester 2 Spring

Oncology II

A continuation of Oncology I: The course will introduce concepts related to the disease process. An emphasis on etiological considerations, neoplasia and associated diseases in the radiation therapy patient should be presented. The course is designed to examine and evaluate the management of neoplastic disease using knowledge in arts and sciences, while promoting critical thinking and the basis of ethical clinical decision making. The epidemiology, etiology, detection, diagnosis, patient condition, treatment and prognosis of neoplastic disease will be presented, discussed and evaluated in relationship to histology, anatomical site and patterns of spread. The radiation therapist's responsibility in the management of neoplastic disease will be examined and linked to the skills required to analyze complex issues and make informed decisions while appreciating the scope of the profession.

Principles and Practices II

This class will introduce students to medical imaging methods currently used in the field of radiation therapy. Students will identify normal anatomical structures via a variety of imaging formats. Basic anatomical relationships will be compared using topographical and cross sectional images. Record and verify systems commonly utilized in radiation therapy are examined. Emphasis is placed on information technology that is prevalent in radiation therapy departments. This course also examines the need to disseminate intellectual inquiry, information literacy and the use of scholarly research methods.

Radiation Therapy Physics II

The course will review and expand concepts and theories in the Radiation Physics I course. Detailed analysis of the structure of matter, properties of radiation, nuclear transformations, x-ray production and interactions of ionizing radiation as they apply to radiation therapy are emphasized. The course will establish factors that influence and govern clinical planning of patient treatment. Encompassed are isodose descriptions, patient contouring, radiobiologic considerations, dosimetric calculations, compensation and clinical application of treatment beams. Optimal treatment planning is emphasized. Class demonstrations\laboratories and projects are incorporated to complement specific content areas and are focused on clinical applications. The class will present factors needed for treatment calculations, how to preform dosimetric calculations for all beam variations and types, using compensation or other beam changing or modification in the clinical application of radiation treatments.

Radiation Biology

The course will present basic concepts and principles of radiation biology. The interactions of radiation with cells, tissues and the body as a whole and resultant biophysical event will be presented. Discussion of the theories and principles of tolerance dose, time-dose relationships, fractionation schemes and the relationship to the clinical practice of radiation therapy will be discussed, examined and evaluated.

Clinical Practicum II

A continuation of Clinical Practicum I: The course will provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in

radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide care to the patient in the therapeutic setting for simulation, treatment planning and administration of a prescribed course of treatment. Levels of competency and outcomes measurement shall assure the well-being of the patient preparatory to, during and following delivery of radiation therapy treatment and services.

Semester III Summer

Quality Management

Course will focus on the components of quality improvement (QI) programs in radiation oncology. Topics will include developing a culture of safety through quality control and assurance checks for the clinical aspects of patient care, medical records, treatment delivery and localization equipment and treatment planning equipment. The role of the various radiation therapy team members in continuous quality improvement will be discussed as well as the legal and regulatory implications for maintaining appropriate quality care. Course is also designed to focus on various radiation therapy operational issues. Continuous quality improvement (CQI) project development and evaluation and assessment techniques will be emphasized. Human resource concepts and regulations impacting the radiation therapist will be examined. Accreditation agencies and the radiation therapist's role in the accreditation process will be emphasized. Billing and reimbursement issues pertinent to the radiation therapy department will be presented.

Radiation Physics III

The course will present treatment units used in brachytherapy radiation therapy, measurement and quality of ionizing radiation produced, absorbed dose measurement, dose distribution, dose calculations, and scatter analysis and treatment techniques. Class demonstrations\labs are incorporated to complement specific content areas and are focused on clinical application of theory. The course will present principles of radiation protection and safety as it relates to brachytherapy. This course expands on Radiation Physics II course by examining tools available for performing monitor unit calculations Stereotactic and emerging technologies are presented.

Principles and Practices III

The course will bring together all the principles, concepts and applications to deliver a correct and complete course of prescribed radiation therapy by a competent, compassionate and professional radiation therapist. The course will establish knowledge for applying treatment concepts in the clinical application of radiation therapy.

Clinical Practicum III

The course will provide sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice and professional development shall be discussed, examined and evaluated. Clinical practice experiences shall be designed to provide care to the patient in the therapeutic setting for simulation, treatment planning and

administration of a prescribed course of treatment. Levels of competency and outcomes measurement shall assure the well-being of the patient preparatory to, during and following delivery of radiation therapy treatment and services.

CONTACT/CLOCK HOUR CONVERSION TO CREDIT HOURS

Didactic Hours Conversion to Credit:
1:1 contact/clock hours to credit ratio- One credit is assigned to one hour (60 minutes) of classroom time per week throughout each semester of approximately 16 weeks in length.
Example: 3 contact hours per week or 48 contact/clock hours per semester =3 credit hours

Clinical Hours Conversion to Credit:
8:1 contact/clock hours to credit ratio – One credit is assigned to 8 hours of clinic time per week throughout each semester of approximately 16 weeks of length.
Example: 24 contact/clock hours per week or 384 contact/clock hours per semester = 3 credit hours

DIDACTIC EDUCATION
2022-2023

COURSE	INSTRUCTOR	EXTENSION Area Code (501)
Orientation to Radiation Therapy	Tiffany Young, M.A., R.T. (R)(T)	660-7621
	Ashley Sexton, BSRS, R.T. (R)(T)	660-7622
Patient Care	Christy Watson, BSRN	296-3243
Principles and Practices of Radiation Therapy I, II, and III	Ashley Sexton, BSRS, R.T. (R)(T)	660-7622
	Tiffany Young, M.A., R.T. (R)(T)	660-7621
Oncology I, II and III	Tiffany Young, M.A., R.T. (R)(T)	660-7621
	Ashley Sexton, BSRS, R.T. (R)(T)	660-7622
Radiation Physics I, II and III	Paul Bruce, M.S.	296-3267
	Jim Beaty, C.E.T.	296-3279
	Scott Yakoubian, M.S.	296-3204
	Vance Keeling, M.S.	296-3277
	Ashley Matsushita	907-8307
Radiation Biology	Tiffany Young, M.A., R.T. (R)(T)	660-7621
Quality Assurance	Tiffany Young, M.A., R.T. (R)(T)	660-7621
	Ashley Sexton, BSRS, R.T. (R)(T)	660-7622
Technical Radiation Therapy Labs	Ashley Sexton, BSRS, R.T. (R)(T)	660-7622

FACULTY QUALIFICATIONS

Young, Tiffany, M.A., R.T. (R)(T)(ARRT) Program Director(2020). B.S. Radiologic Technology, University of Central Arkansas, 2002, Advanced Certificate Radiation Therapy, CARTI, 2003, B.S. University of Arkansas for Medical Sciences emphasis in Radiation Therapy, 2003, M.A., Management and Leadership Webster University, 2009.

Sexton, Ashley, BSRS, R.T. (R)(T)(ARRT) Clinical Coordinator(2012). B.S. Radiological Science, Arkansas State University, 2004, Advanced Certificate Radiation Therapy, CARTI, 2004.

Bruce, Paul, M.S. (AAPM) Instructor (2004). B.S. Physics, Louisiana State University, 2000, M.S. Medical Physics, Louisiana State University, 2003.

Beaty, Jim, C.E.T., Certified Electronics Technician, Instructor (1988), B.S. Engineering Electronics Technology, Grantham University, 2012.

Keeling, Vance, M.S.(AAPM) Instructor (2015). B.S. Medical Dosimetry, University of Arkansas for Medical Sciences Little Rock, 2009, M.S. Radiological Sciences Physics, University of Oklahoma Health Sciences Center, 2013.

Watson, Christy, BSRN, Registered Nurse, Arkansas State Board of Nursing, (2010) Instructor (2018). University of Central AR School of Nursing, Conway, AR 2010.

Yakoubian, Scott, M.S.(AAPM) Instructor (1997). B.S. Physics, University of Arkansas at Little rock, 1991, M.S. Medical Physics, Georgia Institute of Technology, 1993.

Matsushita, Ashley, M.S. Medical Physics, San Diego State University, 2018. B.S. Physics & Mathematics, California State Polytechnic University, Pomona, 2014.

TEXT BOOK LIST 2022-2023

REQUIRED TEXT BOOKS	AUTHOR	COURSE
The Physics and Technology of Radiation Therapy, 2nd Ed	McDermott and Orton	Physics I, II, III
Principles & Practice of Radiation Therapy, 5th Edition	Charles Washington and Dennis Leaver	Oncology I and II Patient Care, Principles & Practices I, II and III
Primer of Medical Radiobiology, 2nd Edition	Elizabeth L. Travis	Radiobiology

ACADEMIC STANDARDS

Students admitted and continuing in the CARTI Radiation Therapy Program must meet all academic standards established by the program. The candidate for admission must satisfy the requirements of graduation from a JRCERT accredited radiography program. The program does not grant advanced standing nor will a candidate be admitted who is not a graduate of a JRCERT accredited radiography program.

Candidates for admission must also satisfy, or be able to satisfy during the program, the following additional academic standards that program officials have established:

1. Demonstrate an overall minimum 3.0 grade point average (GPA), based on a 4.0 system, in radiography education and a minimum of 2.0 cumulative grade point average (CGPA) in required general education courses. Only courses with a grade of C (2.0 on a 4.0 scale) or higher are accepted.
2. Maintain at a minimum of 75% grade average in all didactic coursework and clinical education components of the program.

PROCEDURES:

1. Review student's final transcripts to ensure student meets the minimum GPA standard for admission after interview and class position acceptance.
    a. Meeting standards:
        i. Compile required information and continue in the admission process.
    b. Not meeting standards:
        i. Send letter to applicant informing them of rejection for not meeting criteria.
2. Ongoing student review after acceptance.
    a. Student Clinical Coordinator reviews clinical grades monthly.
    b. Program Director reviews didactic grades as submitted by faculty
    c. Informs student of progress.
        i. Monthly meeting.
        ii. Transcript at the end of each semester.

3. Evaluate and document any student who does not continue to meet standards according to the Progressive Discipline policy.
   a. Counsel student.
   b. Supervision/probation.
   c. Retest / Remediate.
   d. Dismiss.

TUITION REFUND

Any student officially withdrawing or terminated from the program is eligible for a refund based on the following schedule:

Week in which student withdraws or is terminated	% of current semester tuition refunded
Week 1 (Orientation)	100%
After Week 2	50%
After Week 3	0%

All refunds shall be made by the school to the student no later than 30 calendar days after the student withdraws or is terminated from the program. Proof of refunds shall be placed in the student's file. Refunds are made by check and proof shall be a photocopy of the refund check.

Program officials reserve the right to issue a pro-rated refund in extenuating circumstances. Extenuating circumstances include but are not limited to the following:

- Student is deployed
- Loss of a spouse
- Loss of a child
- Student has injury or illness that prevents them from continuing in program (Doctors note required)

*(Revised 12-20-18)
*(Revised 04-15-19)

TUITION ASSISTANCE AWARD

The H.O. McKenzie Scholarship Fund was established in 1987 with monies contributed by Mr. McKenzie. The money was designated to be used for the education of students of Radiation Therapy. Therefore, CARTI determined that the money should be used as a tuition assistance scholarship. Application for this scholarship is accepted after the completion of the fall semester. Scholarship will be awarded during the spring semester.

H. O. McKenzie Scholarship Student Application information will be distributed by the program director at the completion the fall semester. A scholarship committee, comprised of program faculty members and program officials, will evaluate the scholarship applicant on a numerical system based on:

1. Fall Semester Clinical Grades in CARTI program (20 points possible)
2. Fall Semester Didactic Grades in CARTI program (20 points possible)
3. Attendance (10 points possible)
4. Willingness to be employed by CARTI if offered a position (5 points possible)
5. Personal leadership qualities (25 points possible)
6. Essay (500 words or less) written by student that describes any special circumstances or characteristics that makes the student uniquely qualified to receive the scholarship. Be sure to include any information that provides justification of financial need. (20 points possible)

**An overall combined score of 90% is required for consideration.*

A program official will distribute scholarship applications to the scholarship committee members. Scoring totals for each member's evaluation score sheet for all applicants will be reviewed and scores entered into the Evaluation Summary worksheet to determine applicant's overall combined score. After all scores have been entered and compiled, scholarship committee members will determine the number of applicants to receive the award and the amount to be awarded based on available funds. Recipients will be recognized during graduation ceremony.

TRANSFER STUDENT REQUIREMENTS

The order in which the didactic and clinical education is scheduled is unique to every radiation therapy program. Therefore the program will only accept students for transfer who meet the academic standards along with these additional requirements:

1. Student must be transferring from a JRCERT accredited program.
2. Transfer must take place within a two week time frame of leaving previous program. All education missed during the transfer process must be completed by the end of the program year.
3. Previous education received is based on a comparable grading system.
4. Student must have covered the same didactic and clinical education as CARTI students at the time of entry.
5. Acceptance will not exceed the student capacity identified by JRCERT.

WITHDRAWAL AND RE-ENTRANCE CONDITIONS

A student may be considered for re-entrance only if the all of following requirements are met:

1. Acceptance will not exceed the JRCERT approved program capacity.
2. The student was not previously terminated from the program.
3. Notice of withdrawal was submitted to the Program Director in writing stating reasons and effective date of withdrawal.
4. The student maintained a 75% or greater in each course at time of withdrawal.
5. Re-entrance point within the program will be determined on an individual basis. Testing will be required to verify accurate placement.

ACADEMIC INTEGRITY

Instructors will remain in the classroom during examinations and students may be assigned alternate seating for examination purposes. Students will not be allowed to talk or leave the room for any reason during examinations. Cell phone usage or internet access **is not permitted** during class or examinations. Only approved calculators may be used during examinations. (See Calculator policy). Program officials strictly enforce all policies pertaining to academic integrity and students are required to abide by these policies.

GRADING SYSTEM

Listed below is the established program grading system. Course grades are rounded to the nearest tenth of a percent.

A	= Excellent	93 OR ABOVE	P	= Pass - No Grade Given
B	= Very Good	85-92	I	= Incomplete
C	= Average/Passing	75 – 84	W	= Withdrawn
F	= Failure	0-74		

2022-2023 Academic Calendar

Fall 2022	
AUG 15-19	Orientation
AUG 22	First day of classes/clinic
SEPT 5	Labor Day
NOV 24-25	Thanksgiving Break
DEC 16	Last day of classes/clinic- 18 weeks total

Spring 2023	
JAN 3	First day of classes/clinic
MAR 20-24	Spring Break
APRIL 28	Last day of classes/clinic- 17 weeks total

Summer 2023	
MAY 1	First day of classes/clinic
MAY 29	Memorial Day Holiday
JULY 4	Independence Day Holiday
JULY 21	Last day of classes/clinic - 12 weeks total
JULY 22	Graduation

PROGRAM HOURS

The program provides approximately 1560.5 clock hours/ identified as 38 credit hours of professional education in radiation therapy. The curriculum consists of didactic classes and clinical rotations held Monday through Friday each week. Didactic classes are held at the CCC. Clinical rotations are assigned among five CARTI facilities.

During the first week of the program, class times may vary due to orientation requirements. A class schedule with times will be distributed on the first day of Orientation. If any instructor is fifteen minutes late, students should notify the Program Director. Beginning with the second week, semester 1 and 2 didactic classes will be held Monday, 8:00 – 2:30 p.m. and Friday from 8:00 a.m. - 2:30 p.m. Semester 3 didactic classes will be held Monday, 8:00 - 2:30 p.m. and Friday from 8:00 a.m. – 12:30 p.m. The program's didactic curriculum is delivered primarily by live lectures. Power point presentations and handouts are commonly utilized.

Clinical education for all semesters is Tuesday, Wednesday and Thursday. These hours will correlate with the facility's treatment day usually 7:00 a.m. - 4:00 p.m.

The student is allotted one hour for lunch. From time to time, the student will be required to attend tumor board, lab, or classes during their regular scheduled lunch time. When this occurs, alternate arrangements will be made for the lunch time. Breaks may be taken twice a day. Common sense dictates the time for the break.

COURSE EXAMINATIONS

Each course has a lead instructor and may have several class instructors within the course. Class instructors are required to develop an examination consisting of the information taught. Examinations will be scheduled throughout the class hours.

The class instructor will score each test and explain how the course grade is complied. These grades are used to calculate the final course grade which will be reflected on the transcript. Grades are recorded to the nearest tenth percent.

If a student fails to obtain a 75% in a course, they are dismissed from the program. At the end of each semester, a comprehensive Final exam for clinical and didactic education will be given. Final exams will cover educational material and clinical competencies taught to that point of the program. Students must pass these exams in order to continue in the program. After the completion of semester 2, the student will be given a Essential Physics Concepts Exam (during Semester 3) that they must pass.

RETAKING EXAMS

There will be no make-up of exams in the event of failure. The only exception is failure of a Semester Final Exam. If the student fails any Semester Final Exam, they are required to take a retest. The retest may be oral or written at the discretion of the instructor and program officials. Second failure of a Semester Final Exam constitutes removal from the program. After passing the second exam, the final score for that exam will be 75%, the lowest passing grade. Failure of 2 clinical/didactic examinations invokes the Progressive Discipline Policy.

MAKE-UP ASSIGNMENTS

Make-up assignments may be permitted with an excused absence. It is the student's responsibility to meet with class instructors within two (2) program days after the student's return to class, laboratory, or clinical assignment. If arrangements are not made as specified, a grade of zero (0) for the assignment will be recorded.

PRESENTATIONS

Students are required to deliver two presentations during the program year. The first will be an informational presentation regarding radiation therapy to a class of radiography students or communities of interest as assigned by program officials. This presentation will be scheduled at the beginning of Semester 2 (Spring Semester). The student is responsible for scheduling, organizing and preparing this presentation.

A research presentation will be completed during the second semester. This assignment prepares the student for additional learning, research, teaching and communication for their professional responsibilities and career. The research presentation topic is required to encompass some aspect of radiation therapy and/or cancer and must have prior approval of the program officials. Detailed information will be provided during Semester 2 which includes guidelines and deadlines.

REQUIREMENTS FOR GRADUATION

Students graduating must be able to function as an entry-level radiation therapist within the scope of practice, using the standards of care and upholding the code of ethics. Upon program completion, the student\graduate must be able to:

1. Set up, deliver, monitor, record, and maintain a planned, prescribed course of radiation therapy using oral and written communication skills, knowledge of human structure, function and anatomy, basic mathematical functions, applying correct beam shaping and altering devices while maintaining confidentiality.

2. Complete all clinical and didactic educational material while maintaining a minimum of 75% in all didactic education, clinical competencies, clinical testing, and professional ethics, conduct and technical evaluations.

3. Recognize malfunctioning equipment using knowledge of methods of calibration, quality assurance, daily machine warm up, understanding the functions of equipment and accessories while applying rules and regulations for radiation safety.

4. Verify the prescribed course of radiation therapy and recognize errors in computation and beam direction and recognize dose tolerances, clinical progress, and complications with knowledge of when to withhold treatments until consultation with physician.

5. Communicate and interact with patients and families concerning physical and psychological needs and recognize the physical and emotional stress exhibited by patients and families.

6. Provide basic patient care and cardiopulmonary resuscitation.

ESSENTIAL PHYSICS CONCEPTS

In order to graduate, all students must have a firm understanding of the following radiation therapy physics concepts. These will be included in a comprehensive physics concept final examination.

1. Inverse square law and its effect on beam intensity, monitor units, or treatment times.

2. Beam divergence and its effect on field size at the surface vs. at depth and the effect of changing SSD. Be able to calculate what gap would be at the surface when beams match at depth.

3. Skin sparing - the physics behind it and what will affect it.

4. Radioactive decay - Must be able to calculate decay correction factors, activity, dose rates, given initial activity (or dose rate), half-life, and time.

5. Calculation of dose at different depths and locations in the patient. Understand percent depth dose and TMR (or TAR's) - their definitions - should be able to calculate Dmax dose from tumor dose and vice versa and understand the effect of field size on the patient, beam energy, SSD, tissue density variations, and off-axis position.

6. Transmission through blocks, wedges and trays. Should be able to calculate the effect of blocking trays and wedges on MU and treatment times (given the transmission factor) and demonstrate an understanding of transmission of photons through attenuators such as blocks and compensators.

7. Demonstrate a general understanding of physical wedges and dynamic wedge - when and why they are used, how they affect the primary beam and dose distribution.

8. Treatment planning concepts volume definitions, understanding of dose volume histograms. ICRU 50 and 62 nomenclatures for treatment planning.
9. IMRT and IGRT – understand the basic concepts of IMRT and IGRT and the evolution from simple parallel-opposed fields, to conformal treatments, to IMRT and IGRT.

10. Radiation protection concepts - particularly time, distance, and shielding principles, door interlocks, personnel monitoring methods, and maximum permissible dose.

11. Electron beam therapy concepts
    a. importance of therapeutic depth D90
    b. rules of thumb for mental calculations of Rp, D80 and D90
    c. reversal of skin sharing for increase in energy.

PHYSICAL REQUIREMENTS

Students graduating from the program must be able to complete all components of their education as well as perform the essential job functions of an entry-level radiation therapist. Therefore, the program has defined the following physical requirements that all students in the program must be able to perform.

1. Be visually capable of reading and entering patient information in the patient medical record and dealing with any other visual aspects of patient treatment with either normal or corrected vision.
2. Demonstrate manual dexterity to operate and program the radiation therapy equipment by turning or setting required controls, moving dials and manually moving patient treatment tables.
3. Be able to hear oral communication given by the radiation therapy patient and the treatment team.
4. Be able to lift 25 pounds unassisted to approximately six feet from the floor or be able to lift the same amount to a height of six feet while standing on a stool.
5. Be able to push standard wheel chairs and stretchers from waiting areas to treatment rooms.
6. Transport, move/assist in moving a patient from a stretcher, a wheelchair, onto a treatment table.

STUDENT GUIDELINES AND POLICIES

TUITION and LAB FEE

Tuition for the program year is $7,500.00 with an additional $50 lab fee. The tuition is due in three installments, according to the following schedule:

- Semester 1, first day of class: $3050 due (includes lab fee)
- Semester 2, first day of class: $3000 due
- Semester 3, first day of class: $1500 due

All checks should be made payable to CARTI. Fees are subject to change without notice by action of CARTI program officials.

*CARTI utilizes Trajecsys to manage clinical record keeping. CARTI provides this service at no cost to the student. However, if the student is unable to complete program objectives within the 12 months allotted, the student will be responsible for any additional costs related to maintaining their Trajecsys membership until all objectives are met.

TEXTBOOKS

Expense of required textbooks is the student's responsibility and separate from tuition and lab fee. A complete textbook list is provided in the New Student Information Packet sent to students approximately one month prior to program starting. Students may elect to have program officials order these textbooks for them or they may purchase them on their own. All books must be obtained no later than the first day of the class for which they will be used. Current estimated textbook cost is $400.00.

CALCULATOR

To protect academic integrity, the program limits the types of calculators students may use during exams. The calculators must be scientific non-programmable. The models acceptable for use during exams are as follows:

TI 30Xa Casio FX-260

Students may bring up to two calculators to exams, but they may not share calculators. Calculators may be inspected prior to the start of any exam and must remain on student desk in full view during the exam. Possession or use of an unauthorized calculator during an exam may result in termination from the program. Failure by the instructor to detect an unauthorized calculator prior to the start of an exam, or use of an unauthorized calculator at any time during an exam, does not imply that the calculator is an approved model.

DRUG/CRIMINAL BACKGROUND/DRIVING RECORD REVIEW

Final program acceptance requires the student pass a drug test, criminal background check and a driving record review. These reviews will be conducted during the first week of the program year and will be provided by CARTI at no cost to the student.

DRUG FREE ENVIRONMENT

CARTI supports a drug free environment. Students who test positive will be subject to dismissal from the program following the Progressive Discipline Policy. Throughout the program, students must comply with CARTI's program policy.

If it is suspected that the student is under the influence of drugs during regular or extracurricular program hours, the Program Director will request the student be tested immediately using CARTI's established testing center. If the student refuses, they will be immediately dismissed from the program. CARTI will pay for the first test. If the student requests or requires additional testing, it is at the student's expense.

If the student tests positive for drugs, the program officials and student have two options:

1. The student can be dismissed from the program immediately, third level offense. (See Progressive Discipline Policy).

2. The student can request a leave of absence to obtain counseling and treatment. At the completion of treatment, the student must submit a letter from the treatment team documenting that they are drug free.

At that time, the program officials may elect to allow the student to re-enter the program under the Re-entrance Conditions policy. Additionally, the student must realize that staying drug free is a condition for completing the program.

CRIMINAL BACKGROUND CHECK

It is the policy of the CARTI Radiation Therapy Program that all admitted students must consent, submit to, and satisfactorily complete a criminal background check (CBC) through an agency selected by the program. Acceptance into the program will not be final until the completion of the CBC with results deemed acceptable to the Program Director. Students cannot begin clinical assignments prior to the completion of the CBC with acceptable results. Initial admissions decisions are made prior to and without regard to the background check.

The following practices and procedures will be followed.

PROCEDURES:

1. Expenses related to the CBC will be responsibility of the program.
2. Applicants will be notified that CBC is required and will be conducted during orientation. This notification is included in the program brochure as well as in the student handbook. Both of these documents are available to the public via the programs website www.carticom.
3. Students will provide written consent authorizing CBC during orientation.
4. Students will be provided with a summary of their rights in dealing with consumer reporting agencies.
5. CARTI Human Resources representative will request CBC be conducted as allowed by the Fair Credit Reporting Act (FCRA).
6. Online results of CBC will be provided to CARTI's Human Resources representative.
7. Human Resource representative will forward results to Program Director.
8. The Program Director will review the CBC report. Cases containing adverse information will be considered individually and, under extenuating circumstances, an exception could be made. In general the following are considered as adverse findings and therefore could prevent admission:
   - Felony convictions
   - Conviction of violent act (Misdemeanor convictions or felony deferred adjudications involving crimes against persons (physical or sexual assault or abuse)
   - Misdemeanor convictions related to moral turpitude (prostitution, public lewdness/exposure etc.)
   - Felony deferred adjudications for the sale, possession, distribution, or transfer of narcotics or controlled substances.
   - Violence in the workplace
   - Registered sex offenders
   - Other offenses as determined by the Program Director

9. In the case of adverse information in the CBC, the Program Director will proceed as follows:
   a. The Program Director will contact the student to discuss the results and the student's perspective on the circumstances.
   b. The student will be provided a copy of the CBC report.
   c. Student will be given the opportunity to dispute the accuracy and/or relevance of the report. This conversation will be documented in writing and included in the student's file.

d. If the student feels that an adverse CBC finding is in error, the student will be advised how to contact the vendor to challenge the accuracy and completeness of the report.
e. If the adverse information is proven to be an error, no further action is taken.
f. If the Program Director determines to make an adverse decision based on the results of the CBC, legal counsel will be consulted.
g. If legal counsel advises that the student can be dismissed from the program, the student will be notified in a timely manner.
h. The student will be advised to their rights to redress through the internal grievance process.
i. If there is a conviction that does NOT disqualify the student from the program, the student will be asked to sign an acknowledgement that a flagged CBC may preclude the ability to sit for American Registry of Radiologic Technologists (ARRT) certification boards or obtain a state license. It is the student's responsibility to contact the ARRT and the Arkansas Department of Health to determine whether or not the conviction will prevent them from taking the certification/ examination or obtaining a state license respectively, upon completion of the program.

10. CBC reports and supporting documentation will be maintained in a confidential file that is separate from the student's academic record. Access to this file is only permitted to the Program Director, Clinical Coordinator, Administrative Assistant, Human Resource representative and legal counsel on a strictly need to know basis. This file will be stored in a locked, limited access file cabinet in the Program Director's office.
11. CBC information will be retained until the student graduates or is dismissed from the program. At the appropriate time, it will be disposed of by shredding.
12. The program will refund tuition in the event that a CBC renders the student ineligible to complete the program.

PROFESSIONAL CONDUCT

A professional attitude should be portrayed at all times. The student is considered to be a mature adult whose attitude, conduct, and morals are compatible with the functions and missions of CARTI as an educational institution, and with the ethical standards of Radiologic Technologist and The American Society of Radiologic Technologists Professional Code of Ethics.

Each student is expected to comply with requests of program officials in the performance of his\her program responsibilities; to obey the laws of the city, state, and nation; and to refrain from conduct, as described in the progressive discipline policy, which would demean the ethics and integrity of his\her chosen profession.

The following is a description of the principle non-cognitive responsibilities of students in the program:

1. Come adequately prepared for class.
2. Attend all classes, laboratories, and clinical\field experiences, as scheduled, unless previous arrangements have been made with the instructor or program officials.
3. Request instructor\student conferences when needed.
4. Treat patients and co-workers justly and impartially, regardless of their sex or their physical, mental, emotional, political, economic, racial, or religious characteristics.
5. Maintain a non-biased, open point-of-view during class sessions.
6. Request and take makeup examinations, if permitted by the instructor, within the specified period of time for the given course.
7. Act as a favorable role model for your chosen health profession at all times.
8. Be responsible for the condition of the instructional area during and at the completion of a class session.
9. Loud talking or laughing, chewing gum or use of profane language is discouraged.
10. Maintain and arrange class material in a form that will be usable in the future as a professional reference.
11. Attempt to resolve concerns and questions in a courteous and informal manner, utilizing only when necessary grievance procedures according to the published rules.
12. Adhere to the student responsibilities required by the program
13. Maintain academic integrity by doing one's own work. See Academic Integrity

PROFESSIONAL UNIFORM AND APPEARANCE

The process of earning the patient's trust is one of the most important and rewarding things done as a therapist. One of the easiest and most successful ways to start this process is to make a good "professional" impression. Students are required to wear uniform and official CARTI name tag during all program hours. Therefore, the students must comply with the CARTI Dress Code Policy (See Policy for complete rulings) and specific uniform guidelines as stated below:

Pants: Solid navy scrub - any style.
Tops: Solid navy scrub top, any style with sleeves.
Jacket: Navy matching scrub jacket – fleece not acceptable
Shoes: Athletic shoes with socks

IDENTIFICATION OF CARTI STUDENTS

Individuals enrolled in the program must be identified as students.

PROCEDURES:

1. Students must wear a CARTI name badge at all times. The badge will contain the student's first name and identify them as a Student Radiation Therapist.

2. All students must be introduced to the patient, patient family members and other health care professionals.

SMOKING

In compliance with the law and to safeguard the health and well-being of patients, students and employees and to avoid safety hazards in general, smoking is prohibited on the grounds of CARTI, in any CARTI building or vehicle, this includes the use of electronic cigarettes.

TELEPHONES, EMAIL and INTERNET

A student may not access their personal cell phones while in class or in clinical areas. This includes both voice and text messages. The ring function must be turned off at all times. Students may use designated areas during authorized times to send and receive calls or texts (i.e. break rooms, offices, non-occupied workspaces). Please keep these calls and the call length to a minimum.

Telephones located at each treatment machine are used for patient and interdepartmental communication only and should not be used for personal calls. Long distance calls, made from CARTI phones, are prohibited without prior approval from the program officials. Use of the CARTI telephone and intercom system will be discussed during orientation at each facility.

Program officials utilize email as a method of communication throughout the program year. Students will be issued a CARTI email address and are responsible for checking it daily.

As a condition of providing Internet access to the student, CARTI places certain restrictions on usage. To be used as follows:

1. Communicate with program officials regarding program/educational matters
2. Acquire information related to student performance
3. Facilitate performance of any task in a manner approved by a program official

Please be advised that use of Internet access, provided by CARTI, expressly prohibits the following:

1. Dissemination or printing of copyrighted materials (including articles and software) in violation of copyright laws.
2. Sending, receiving, printing or otherwise disseminating proprietary data, or other confidential information of CARTI in violation of company policy or agreements.
3. Offensive/harassing statements or language including disparagement of others based on race, national origin, gender, sexual orientation, age, color, disability, religion, or political beliefs.
4. Sending, accessing or soliciting sexually oriented material, messages or images. (e.g. pornography sites on the Internet).
5. Operating a business, usurping business opportunities or soliciting money for personal gain.
6. Sending chain letters, gambling or engaging in any other activity in violation of local, state or federal law and/or company policy.

Disciplinary action, following the program progressive disciplinary policy, for violation of CARTI's Internet Use may include termination or suspension from the program.

REPORTING INFECTIOUS OR COMMUNICABLE DISEASE

It is the student's responsibility to immediately notify the Program Director, and report any suspected or confirmed infectious\communicable disease to Employee Health (501-414-3047). Please see Arkansas Department of Health List of Reportable Communicable Diseases to know what to report. After notification, Infection Control Nurse will begin reporting and follow-up process as needed according to institutional policy. If a student is placed on leave, a written release from a qualified physician may be required before returning to the program.

CARTI Policy defines infectious or communicable diseases for all colleagues, patients and students.

Students are required to complete CARTI annual TB questionnaire. Students will be offered the annual flu vaccination. Students will provide documentation of completion of Hepatitis-B vaccination. If the student has not previously had this vaccination, it will be provided at no cost to the student. If the student chooses not to take the Hepatitis-B vaccination, they will be required to sign a waiver. There is no student fee for these identified tests\vaccines. During Orientation, students will be provided with on-line

educational presentations including post tests on the topics of Infection Control, Hazardous Communications, Medical Waste and Flu.

The student will be required to provide prior to their first clinical assignment, documentation of the following vaccinations:

- COVID 19 (reference CARTI Visitor Policy)
- Measles Mumps and Rubella
- Chicken Pox/Varicella
- Tetanus/Diphtheria
- Pertussis

This documentation will be maintained in the student's permanent record.

CONFIDENTIALITY

It is the responsibility of all CARTI colleagues and students to secure patient, student, and institutional confidentiality. Students will adhere to CARTI institutional policies regarding confidentiality (HIPAA, FERPA etc.). These policies will be discussed during Orientation. Documents listing student data, patient data and institutional and/or patient financial information are considered confidential

All documents, handwritten, electronic or from a copier, fax or printer, that lists any or all of the following information that will not be used in a formal institute document file will be secured or shredded:

- Patient's name with diagnosis on same sheet of paper
- Patient or student's name and social security number
- Patient or student's financial information
- CARTI financial statements
- CARTI in-house confidential information (examples: quality improvement reports and information, minutes of meetings with confidential information).

All patient records and images along with CARTI institutional information are considered confidential. These guidelines have been established by CARTI and will be discussed during orientation:

- Patient information is not to be discussed outside of CARTI. If discussion at CARTI concerns a patient, it must be limited to diagnosis, prognosis and set-up.
- If confidentiality is violated, this is reason for a third level offense in the Progressive Discipline Policy.

Additionally, during orientation all students will be required to complete HIPAA and Confidentiality computerized education programs, pass examination on these programs as well as read and sign Confidentiality Statement.

Student program records and transcripts are confidential. Information in the student files will not be released to anyone, under any circumstances, without permission from the student. (See Student Records and Privacy)

CONFLICT OF INTEREST

The program expects the student to conduct his or her self-according to the highest ethical standards of conduct. Students are expected to devote their best efforts to the interests of the program and CARTI. Dealings that appear to create a conflict between the interests of a student, patient, CARTI, or a colleague are unacceptable. The program recognizes the right of students to engage in activities outside of their education that is of a private nature and unrelated to the program. However, the student must disclose any possible conflicts so that the program may assess and prevent potential conflicts of interest from arising. A potential or actual conflict of interest occurs whenever a student is in a position to influence a decision that may result in a personal gain for the student or an immediate family member (i.e., spouse or significant other, children, parents, siblings) as a result of the program's or CARTI's business dealings.

It is not possible to specify every action that might create a conflict of interest. If a student has any question whether an action or proposed course of conduct would create a conflict of interest, they should immediately contact the Program Director to obtain advice on the issue. The purpose of this information is to protect the student from any conflict of interest that might arise. A failure to disclose actual or potential conflicts of interests may result in immediate and appropriate counseling, up to and including dismissal from the program. Didactic coursework regarding corporate compliance will provide additional details pertaining to conflicts of interest.

STUDENT EMPLOYMENT

Students in the CARTI Radiation Therapy Program may be employed outside of regularly scheduled educational hours.

Students are informed during the interview and program orientation that they may be employed outside of school hours, if the following conditions are met:

1. Employment is not part of nor will it be credited as educational hours or time.
2. Employment is not to interfere with regularly scheduled school hours.
3. Students are not to work such that they cannot maintain a passing average in all courses. If they are not passing, they will be counseled following the progressive discipline policy.
4. The school and CARTI take no responsibility for the student while they are employed. During employment, the student is not considered a student in the program.
5. If the student is working around radiation and is to be monitored, they cannot use their school film badge or monitoring device. They must be monitored separately for employment.

INSTRUCTOR EVALUATION

Each student will be required to complete a Didactic Instructor Evaluation for each instructor upon completion of each semester. Student input is very important in continuing, maintaining and evaluating our high standard of education. This evaluation enables the instructors to evaluate their teaching skills, tests and books utilized during the course. The program director, student clinical coordinator and the didactic instructors review the evaluations.

ACCEPTANCE OF GIFTS, TIPS AND GRATUITIES

No student may solicit or accept gifts of significant value (i.e., in excess of $25.00), lavish entertainment or other benefits from patients, potential or actual customers, suppliers or competitors. Special care must be taken to avoid even the impression of a conflict of interest.
Solicitations of tips or gratuities from patients, relatives or friends are against program and CARTI policy. Cash gifts (or the equivalent, such as gift certificates) to or from vendors, clinicians, patients visitors or referral sources are prohibited. Perishable or consumable gifts to an entire department or group are acceptable.

Solicitations and Distribution

In order to prevent disruptions in the operations of CARTI, interference with patient treatment, and inconvenience to our patients and visitors, the following applies to solicitation and distribution of literature on CARTI's property:

Outsiders:

- Persons not employed at CARTI may not solicit or distribute on CARTI property at any time.

CARTI Students and Colleagues:

- Solicitation is not allowed during educational or CARTI working time or in treatment/work areas for any reason.
- Students may not distribute literature for any purpose during educational or CARTI working time or in the treatment/working area.

PROFESSIONAL REGISTRATION AND LICENSURE ORGANIZATIONS

Radiation therapy is made up of many organizations which support, monitor and regulate the profession, radiation monitoring and regulating will be discussed in Orientation class and Physics I.

- Joint Review Committee on Education in Radiologic Technology, JRCERT, www.JRCERT.org. The national body under the umbrella of the Committee on Allied Health Education and Accreditation, CAHEA, which is recognized by the US Department of education. Responsible for developing and setting the professional standards for accredited programs in radiologic technology.
- American Society of Radiologic Technologist, ASRT, www.ASRT.org. The national professional organization that provides continuing education, addresses national issues, with input from the profession, the profession curriculum, the practice

standards and policies governing the profession, as well as recommending technologists to serve on national boards and committees.

- Arkansas Society of Radiologic Technologist, ArSRT, www.ArSRT.org. The state professional organization that provides continuing education and addresses state issues, as well as recommending technologist to serve on state and national boards and committees.
- American Registry of Radiologic Technologists, ARRT, www.ARRT.org. The profession's national registry that is responsible for radiological sciences testing and registration, as well as monitoring and recognizing professional continuing education.
- Medical Ionizing Radiation Licensure Committee, MIRLC. The committee identified by state law responsible for licensing and monitoring individuals and their continuing education in the state of Arkansas using ionizing radiation. Members of the committee are appointed by the Governor of Arkansas.

Professional dues/fees for the American Society of Radiologic Technologists and the Arkansas Society of Radiologic Technologists, as well as any national and state registration and/or licensure, are the responsibility of the student. It is considered a vital part of the student's education to make them aware of the advantages and education that can be gained through belonging to their professional organizations. When possible, the student will be able to attend either National or State meetings of these Societies using their personal time off. As a professional, the student should support and recognize their local, state, and national organizations. The professional societies have a lot to offer the student and radiation therapist if they are willing to put forth the effort needed to support these organizations.

ATTENDANCE GUIDELINES AND POLICIES

TIME DOCUMENTATION/ NAME BADGE

Students are responsible to clock in before going to their assigned area, clock out and in for lunch break, and clock out before leaving each day using the Trajecsys system. Training on the use of Trajecsys will be provided during Orientation.

Each student is issued a CARTI name badge that is used to access both classroom and clinical education sites. Recurrent failure to clock in or out will result with counseling in a first level offense. Refer to the Progressive Discipline Policy.

Students are not allowed to exceed 24 hours of clinic time per week nor 10 hours per day nor 40 hours per week for total of didactic and clinical education, except under special extenuating circumstances, which must be identified and approved.

TARDY

Arriving to class and clinical assignments on time is an expectation of all students. Tardiness is unacceptable to the program. Chronic tardiness will not be tolerated and will invoke the progressive discipline policy. Ten minutes past the appropriate assignment time is considered tardy. Excessive tardiness is defined as being late more than five times per semester. Refer to the Progressive Discipline Policy.

If student is going to be tardy on class day they are required to notify the Program Director. If student is going to be tardy on clinical education day they are required to notify the Student Clinical Supervisor at their assigned clinic.

PERSONAL DAYS

A student is allowed five personal days during the 12-month program. This time may be used for vacation, birthday holiday, medical appointments, and personal or family illness at the student's discretion. Up to two additional personal days are allowed for job interviews, and to attend ASRT chapter meetings in their home state (i.e. ArSRT) or other professional/educational meeting or programs. Students taking the Radiography Registry for the first time will be granted time off for completion of the exam.

All time off events must have the prior approval of Program Director and Clinical Coordinator. Student must request time off with program officials via e-mail and also enter a time exemption in Trajecsys. Student has the option of taking off a full (8 hrs) or half (4 hrs) day. Students missing more than the allotted time off will be subject to the Progressive Discipline Policy.

ABSENCES

An absence is any time a student is not attending scheduled program hours, either didactic or clinical. There are three types of absences: Scheduled Excused, Unscheduled Excused, and Unexcused.

Scheduled Excused Absence

A Scheduled Excused Absence includes holidays or any personal day in which the student schedules the time off with the Program Director the previous program day (during normal clinical hours) and following appropriate policy and procedure.

Unscheduled Excused Absence

An Unscheduled Excused Absence is one in which the student is unable to attend due to personal reasons and approval was not obtained the previous program day. Student will be excused if they notify the Program Director and/or Clinical Coordinator **30 minutes prior to the start of the program day**. An email describing missed time must be sent to program officials immediately upon return and it must be entered into Trajecsys.

If the student is hospitalized or absent due to a major illness, a written release must be obtained from a physician stating that the student is able to return to the program.

Unexcused Absence

Notification failure and not providing proper documentation is considered an unexcused absence.

ILLNESS WHILE AT SCHOOL

If a student becomes ill while attending the program, they should report to the Program Director and/or the Student Clinical Coordinator. In the event of an emergency, authorized personnel must be notified and the appropriate procedures will be followed to care for the student.

EXTENDED LEAVE OF ABSENCE

If the student requires an extended leave of absence due to personal reasons, they must submit the request in writing to program officials. A maximum of six weeks extended leave may be granted. Additional leave will be reviewed by program officials on an individual basis. Medical leave requires a physician release to return to the program. All missed assignments and clinical time must be made up before Certificate of Program Completion can be awarded. Request for leave based on pregnancy follows Pregnancy Reporting/Leave Policy.

Program Officials will discuss the following options to continue the program:

- Modify or interrupt both clinical and didactic education.
- Modify clinical assignments only and attend didactic education.
- Complete leave of absence and consideration for reentrance into next year's Program

Each request for leave is considered on an individual basis. Leave will be granted based upon program requirements and student's needs. Options for attendance, length of time granted and possible program modifications will be determined by factors that include:

- Education can be made up within a reasonable time, including all clinical and didactic coursework
- Current student status
- Time of program year
- Amount of coursework previously completed

HOLIDAYS

Designated holidays are: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving and the day after, and Christmas. There will be a Winter break around Christmas and New Year's week and a Spring break normally in March. See Program Schedule for exact dates for the observance of these holidays.

BEREAVEMENT

Students are granted three (3) absences for the death of an immediate family member. Immediate family members are defined as: parent, spouse, child, grandchild, parent-in-law, sibling, sibling-in-law, grandparent, or grandparent-in-law. Special permission may be granted to attend funeral services for other than those described.

JURY DUTY

All students summoned for jury service will be excused after presenting appropriate documentation.

INCLEMENT WEATHER

1. Classes and clinical assignments may be cancelled due to inclement weather. When students perceive that bad weather conditions may cause the program to close or be on a delayed opening, they should contact the Program Director at 501-258-0543 for instructions.

2. Students will not be required to use personal or additional time on days that the inclement weather policy is invoked by the program director.

   Students who have a safe mode of transportation and are willing to report despite weather conditions will receive additional time equivalent to time spent at the facility or a minimum of two hours. Students should report to the closest CARTI facility.

   If the inclement weather policy is invoked while the student is in attendance at CARTI, they should immediately leave their assigned rotation and begin travel home. No personal time, either vacation or additional, will need to be used in this instance.

3. **If the inclement weather policy HAS NOT been invoked** but the road conditions where students live precludes safe travel, students should notify Program Director either directly or via voice mail by 7AM of their inability to attend. Students should then work with course faculty to make up what was missed upon return to school. Students will be required to utilize personal or additional time on days missed when inclement weather policy was not invoked by Program Director.

CLINICAL EDUCATION

INTRODUCTION

This section of the handbook provides guidelines for the Clinical Education component of the curriculum of the CARTI Radiation Therapy Program. It is a reference to be used by faculty and students in the development of learning experiences for students and the evaluation of their clinical performance. Clinical education in radiation therapy is the process by which the student is given opportunities to learn to apply knowledge, develop attitudes, and practice skills in the clinical setting. This section contains information pertaining to clinical education, including faculty information, examples of procedures and competencies, clinical rotations, grading system and clinical forms.

CLINICAL REQUIREMENTS FOR GRADUATION

Requirements for graduation include successfully completing the following according to established criteria:

- Eleven (11) clinical rotations to CARTI facilities utilizing a variety of equipment (3 to 4 weeks each)
- A clinical rotation through dosimetry
- A clinical rotation through nursing, 3 days out of one rotation during the 1st semester
- Eighteen (18) treatment competencies in designated sequence
- Six (6) localization competencies in designated sequence
- Three (3) new patient treatments. Student responsible for all aspects of patient simulation, treatment and documentation.
- Dosimetry Task Competencies
    - Six (6) calculations on specified set-ups
    - Five (5) fabricated devices
    - Five (5) chart checks
- In Semester One, four (4) warm-up procedures will be done on the accelerator and two (2) on the CT over the course of the first 4 clinical rotations. For Semester two and three, two (2) independent warm-up procedures will be completed for each rotation on the accelerator and four (4) total for the semester on the CT. This will result in a total of 16 warm-ups on the accelerator and 6 on the CT.
- General Patient Care
    - CPR - BLS
    - Vital Signs (BP, pulse, respiration, temperature)
    - O2 Administration
    - Patient Transfer
- Five(5) Observation/Participatory Procedures
- Three (3) Clinical Semester Final Exams

A full explanation of each of these requirements is contained on the following pages of the handbook. There are specific forms used to document performance in each area. Appropriate forms are listed below each description. Forms are available electronically and will be reviewed at orientation. It is the student's responsibility to maintain these forms in good standing. The Program Director and/or Student Clinical Coordinator will review completed forms with the student at the completion of each clinical rotation.

GENERAL CLINICAL INFORMATION

CARTI's clinical education is competency based. Therefore, the amount of clinical time may vary between students. While most students will complete all required clinical competencies within the specified time, some students may require additional clinical time.

After each clinical rotation, the student will meet with a program official to review progress and identify strengths and areas for improvement. Clinical performance evaluations and other clinical documentation will be collected and a Clinical Report Card compiled at this time. The student will receive a copy of this performance report, which compiles performance to date.

At CARTI, we all participate as a team. Students function as an important part of the treatment team and as such will assist in keeping their assigned work areas neat and clean. They will assist in keeping the treatment rooms stocked and straightened in preparation for each new patient. This provides the proper environment for our patients.

It is recommended that the student carry an approved calculator and a notebook to record helpful hints they can refer to at a later date. It has been found that with the large quantity of information the student receives it is best to write it down for later and better utilization.

SEMESTER CLINICAL FINAL

Given at the completion of Semester 1, 2, and 3, the student will perform clinical set-ups on treatment and simulation equipment. Student performance will be evaluated on each set-up utilizing established objectives. The student must pass each competency with a minimum grade of 75%. A failing score requires the student to retest. Program officials will determine type of retest required based on reason for failure. In addition, failure of a Semester Clinical Final will invoke the progressive discipline policy.

SEMESTER CLINICAL GRADE

At the end of each rotation, the student will receive a clinical grade. This grade is composed as follows:

60% = Professional Ethics and Conduct and Technical Evaluation (PECT Evaluation)

40% = Clinical competencies scores

**In the event that no competencies are achieved during a rotation, PECT scores will count as 100% of the clinical rotation score.*

At the end of each semester, the overall clinical grade will be determined as follows:

75%= Rotation Scores

25% = Clinical Final Scores

CLINICAL ROTATIONS

There are a total of 11 clinical rotations among CARTI facilities, each 3 to 4 weeks in length. Students will be provided with a brief summary of key information prior to each clinical assignment. Information will include hours, parking, phone number, driving directions etc.
A structured orientation to the center will be conducted as early as possible in the clinical rotation. Orientation should include at a minimum the following topics:

a. Introduction to key personnel and their job responsibilities, chain of command.
b. Tour of the center.
c. Location of equipment and supplies.
d. Emergency procedures.
e. Hours of operation.
f. Student performance expectations.

DIRECT SUPERVISION

It is the CARTI Radiation Therapy Program policy that students be monitored under **direct supervision at all times**. The JRCERT defines direct supervision as student supervision by a qualified practitioner (e.g., registered radiation therapist, credentialed medical physicist, licensed radiation oncologist) during all aspects of the procedure. Students must always be directly supervised. Students must be under direct supervision of a registered radiation therapist until such time as the student graduates and obtains a temporary license. A registered radiation therapist must review the procedure, evaluate the condition of the patient and approve the procedure. Students may perform any and all aspects of the patient set- up and treatment delivery consistent with their level of achievement under such direct supervision. Under no circumstances will students perform unsupervised patient related tasks. If any condition exists which constrains direct supervision, the student is obligated to report it to a program official.
NOTE - During the first semester, students are not allowed to operate the machine console with a patient in the room. Students will be taught how to set the console during clinical rotations and should practice these procedures during break periods without a patient in the room. During the second semester, the student may begin to operate the console on a regular basis under the direct supervision of the clinical staff. Students may begin treatment chart documentation including charges, and operation of ARIA Record and Verify System **after** the successful completion of the program's computer and chart coding classes conducted in the 2nd semester. Program officials will notify staff when these requirements have been met. Students will be responsible for these tasks during competency testing in the 3rd semester.

CLINICAL CHECK LIST

During clinical rotations, the student will be required to maintain a clinical check list. The Clinical Checklist is an accumulative list of treatments observed and/or assisted by the student during clinical rotations. It is the student's responsibility to keep this list up-to-date. This list will be reviewed during meeting with program official at the end of each clinical rotation.
See Trajecsys - Clinical Checklist

PROFESSIONAL EVALUATION

Students will be evaluated on professional and technical skills as well as ethical behavior and conduct. Therapist will meet with student at the beginning of each rotation. This initial discussion between student and clinical instructor about goals is critical. If expectations of both student and clinical instructor are clarified initially, there will be fewer misunderstandings about evaluation of performance. It is assumed that all clinical instructors are fair and reasonable in their expectations and evaluation of students unless proven otherwise. It is also a given that all students set high expectations for their own performance and are eager to take on the challenges presented to them.

At the end of the rotation, therapist and student will meet again to review outcome of rotation. Therapist will evaluate student via Trajecsys, Professional Ethics, Conduct and Technical Evaluation (PECT).

The student will be evaluated on ten categories of clinical achievement. These categories are supported by more specific objectives, which indicate clinical progress. If the student scores less than 75%, the Progressive Disciplinary Policy will be invoked. Program officials review these evaluations with the student after each rotation.

STUDENT EVALUATION OF CLINICAL STAFF

The purpose of this evaluation is to provide a consistent and uniform approach for students to evaluate clinical education and overall clinical experience. Student should complete a Clinical Instructor evaluation at the end of each rotation for each therapist with whom they worked a minimum of 3 days. A summary of these evaluations will be given to the clinical staff annually in the Fall.
See Trajecsys - Clinical Instructor Evaluation

CLINICAL COMPETENCIES

There are a variety of mandatory and additional competencies identified that the student must achieve. All clinical education is completed in sequence. Treatment and simulation competencies are divided according to semesters. After successful completion of particular didactic and academic coursework, students will be permitted to attempt clinical competencies testing.

Each treatment competency must be practiced twice and each simulation competency must be practiced once, all under the direct supervision of a Clinical Staff member. Under special circumstances and with prior approval the number of practices can be modified. The competency can then be performed under direct supervision of one of the Clinical Evaluators. The evaluator will use the Clinical Competency Treatment Objectives as a guideline to evaluate the student's performance and the Treatment or Simulation\CT Evaluation forms to document performance scores and overall grade.

During Semesters 1 and 2, there are a total of 52 points possible on the exam (13 objectives at 4 points each). The student must score a minimum of 75% or 39/52 points to successfully complete the exam.

During Semester 3, there are a total of 60 points possible on the exam (15 objectives at 4 points each). The student must score a minimum of 75% or 45/60 points to successfully complete the exam.

While the student may score in the "acceptable" range on a few items, overall the student must perform at the "good" level or beyond in order to accumulate enough points to pass the exam. Any single item scored a 1.0 or lower or an overall score below 75% will result in failure of the exam.

Once a competency is failed, additional practice must be completed before the competency can be re-challenged. Once a competency is attempted and failed, the highest grade a student can receive for that competency is 75%.
See Trajecsys: Comp Evals

SPOT CHECKS
Once the competency is achieved, the Student Clinical Coordinator or any clinical instructor/evaluator may periodically "spot check" the student on these competencies. The Spot Check is documented in Trajecsys. Spot checks can be done at any time throughout the year. If a spot check is failed the Clinical Coordinator will be contacted and a decision will be made on an appropriate re-test.

TIME OUT
To establish a safe, accurate, and consistent identification process for verifying the right patient & right procedure in the radiation therapy clinical setting, the student will apply the Time Out policy while in clinical education.

CARTI Radiation Oncology will perform patient identification/verification time outs to ensure the safety of our patients. These time out procedures will be performed by the appropriate team member(s) on all patients prior to the start of any procedure. The team member(s) will verify the correct patient, the correct procedure, the correct site, the correct energy, and the correct accessories is known using "active" communication techniques with the patient before any procedure is performed.

Identifying Procedure:
All patients will be identified using a minimum of 2 patient identifiers (E.g. full name, DOB, and photo) prior to any simulation and/or treatment. This can be done by asking the patient to state their name and comparing it to the labeled photo in the chart along with their date of birth. The patient is the prime source of information for verification of identity except for situations where the patient is unable to provide legal verification (i.e. dementia, a minor (less than 21 years of age), etc.). In these circumstances, identity verification should be confirmed with the patient's designated representative.

Initial Simulation

1. The Physician will review with the patient the correct site and procedure that will be performed on the patient. Documentation of the physician's "time out" will be indicated by the physician's and patient's signature on the consent form.
2. Before performing the simulation, the therapist(s) will review the consent form, and then verify the correct patient (see above), the correct site, and the correct procedure using active communication involving the patient. The therapist(s) will document their "time out" for this procedure in the EMR where appropriate. The date, the site of simulated area/areas, and the entire treatment teams' initials will be documented here once the timeout has been performed.

Initial Treatment

1. The therapist(s) will conduct a time out with the patient to verify the correct patient (see above), the correct site, the correct energy, the correct accessories (if applicable), and the correct placement of skin marks. Documentation of this "time out" will be indicated in the EMR where appropriate. The date, the site of treatment area/areas, and the entire treatment teams' initials will be documented here once the timeout has been performed. This procedure will be repeated for each new course of treatment or procedure performed on a patient.

Daily Time Outs

1. These time outs will be documented utilizing site setup verification within the EMR. This will be performed before each daily treatment on every patient. This will be done in a "pilot/copilot" type of process with the "pilot" being the therapist running the machine and "copilot" the secondary therapist acknowledging the checklist. One of the following MUST occur: driving therapist should be logged on into the R&V system either as primary or secondary log in; OR this can be accomplished by typing initials on the first line of treatment in the EMR (driving therapist initials first/secondary therapist next and other involved treatment team initials may be placed on this line as well). Before beam on, a minimum two therapists will ensure that:
    a. Correct patient
    b. Correct site
    c. Correct energy
    d. Correct accessories, if any
2. A timeout also can and should be performed by any member of staff at any time there is a question about the patient.

Name Alert Procedure

1. When multiple patients which have similar names are identified, a "Name Alert" label will be placed in the patient's chart where appropriate with the DOB listed in the comment section.
2. The team member will refer to the patient's chart for more identifying information such as patient's date of birth, social security number, etc. to assist in proper identification of the patient.

CLINICAL COMPETENCY OBJECTIVES - TREATMENT

The following are the objectives by which the clinical competency evaluation will be graded:

1. Patient Record Evaluation and Room Set-Up
    1. Examines treatment record prior to treatment delivery
    2. Reviews prescription and follows any special set up instructions (i.e. full bladder, pacemaker, bolus)
    3. Determines appropriate immobilization, positioning and indexing aids.
    4. Sets up room correctly
    5. Compares daily and accumulative doses in paper and electronic chart prior to and after treatment

2. Verifies Treatment Parameters
    1. Verifies treatment parameters prior to treatment delivery
    2. Positions treatment machine and accessory equipment to reproduce set-up
    3. Records ODI according to policy and takes appropriate action if ODI is not within tolerance
    4. Utilizes lasers correctly

3. Patient Management/Care
    1. Verifies identity of patient with at least two forms of unique identification
    2. Verifies that signed informed consent has been obtained prior to procedure
    3. Recognizes the presence of any complications and side effects commonly associated with treatment procedure and takes appropriate action
    4. Demonstrates sensitivity and compassion for patient's physical and emotional well-being
    5. Maintains the confidentiality of patient information
    6. Assess' patient's status and condition and provides assistance as necessary.
    7. Monitors accessory medical equipment
    8. Pays attention to patient following procedure – quickly enters treatment room, provides appropriate assistance
    9. Observes or questions patient regarding nutritional status
    10. Weighs patient when required
    11. Demonstrates understanding of dose to critical structures in treatment field
    12. Identifies and reports any abnormal laboratory results
    13. Delivers patient for weekly treatment exam

4. Imaging procedures for verification and localization
    1. Verifies treatment fields with portal images when applicable
    2. Review portal images for approval or field modification and initiate changes as required
    3. Utilizes KV, MV, IGRT, and/or CBCT when applicable
    4. Utilize image registration/image comparison software when applicable
    5. Demonstrates understanding of repositioning as required
    6. Demonstrates understanding of IGRT shift tolerance as set forth by policy
    7. Remove radiopaque material from patients that could interfere with imaging

5. Patient Monitoring
    1. Monitors patient visually and by intercommunication system during treatment
    2. Takes appropriate action if patient moves or calls for assistance
    3. Recognizes emergency situation and activates appropriate response

6. Equipment Operation and Monitoring
    1. Watches all movement of unit
    2. Knows control mechanisms response
    3. Demonstrates knowledge of machine components
    4. Reports any equipment malfunctions
    5. Demonstrates troubleshooting capabilities

7. Patient Positioning
    1. Positions patient on treatment couch to reproduce set-up indicated in the patient record, appropriately utilizing:
        a) Indexing
        b) Positioning aids
        c) Field markings
        d) Immobilization devices

8. Patient Education
    1. Explains procedures appropriate to patient' level of understanding
    2. Informs patient what will be required during the procedure
    3. Correctly answers patient's questions
    4. Informs patient when treatment is beginning and ending
    5. Instructs patient on maintenance of the treatment field markings
    6. Instructs patients concerning proper skin care
    7. Instructs patients regarding correct diet during course of treatment and refers to appropriate personnel as required
    8. Schedules and reinforces future appointments

9. Treatment volume localization
    1. Demonstrates understanding of anatomy, physiology and pathology related to treatment procedure
    2. Can describe alternative treatment procedures and explain how these procedures might apply in a given case
    3. Uses appropriate marking procedure when required

10. Communication
    1. Interacts with members of the treatment team in an appropriate and effective manner
    2. Communicates relative patient information to appropriate members of the patient care team
    3. Demonstrates appropriate interactions with patients, patient's family and friends
    4. Communicate scheduling delays to patients

11. Time Management
    1. Uses available time wisely
    2. Stays within allotted time slot
    3. Sets up treatment field efficiently while maintaining accuracy

12. Radiation Safety and Protection
    1. Wears radiation monitoring device while in clinic
    2. Performs required procedure in ways that minimize radiation exposure to personnel and patient

13. Practice of Environmental Protection
    1. Follows environmental protection standards for handling and disposing of toxic or hazardous materials
    2. Follows appropriate standard/universal precautions
    3. Clean, wash, disinfect, or sterilize equipment and room

14. Operation of Console (Semester 3 only)
    1. Delivers treatment by setting and activating controls on machine console.
    2. Understands and responds correctly to faults.

15. Documentation (Semester 3 only)
    1. Documents and signs patient record appropriately for each treatment delivered.
    2. Documents changes in prescribed course of treatment
    3. Documents all charges related to daily treatment.
    4. Documents all aspects of patient care and management in the appropriate record.
    5. Documents and communicates errors and discrepancies in accordance with QA procedures.

CLINICAL COMPETENCY OBJECTIVES - SIMULATION/CT

The following are the objectives by which the clinical competency evaluation will be graded:

1. Patient Record Evaluation and Set-Up
    1. Examines prescription and follows any special set-up instructions prior to simulation
    2. Assures that all diagnostic studies are available prior to procedure
    3. Prepares room and equipment correctly utilizing appropriate supplies and accessories

2. Treatment Field Delineation, Measuring and Marking
    1. Determines potential treatment field from simulation films and diagnostic studies
    2. Communicates with radiation oncologist to determine optimum fields to cover volume of interest
    3. Performs CT scan for region of interest
    4. Applies appropriate field , laser, fiducial and set up markings
    5. Removes any unnecessary marks
    6. Obtains treatment planning data as required (CT Data, contours, measurements, orthogonal films)
    7. Measures and records information necessary to fabricate beam modifying devices

3. Patient Management/Care
    1. Verifies identity of patient with at least two forms of unique identification
    2. Verifies that signed informed consent has been obtained prior to procedure
    3. Demonstrates sensitivity and compassion for patient's physical and emotional well being
    4. Maintains the confidentiality of patient information
    5. Assess' patient status and condition and provides assistance as necessary
    6. Monitors accessory medical equipment
    7. Pays attention to patient following procedure-quickly enters room, provides appropriate assistance
    8. Demonstrates understanding of dose to critical structures in treatment field

4. Imaging and Processing Procedures
    1. Performs scan for region of interest
    2. Select proper protocol for scan
    3. Appropriately selects image parameters – slice level, FOV
    4. Captures and exports all image information to appropriate members of the treatment team
    5. Determines appropriate exposure factors for optimum image quality
    6. Reviews films/scan with radiation oncologist for approval/modification instructions
    7. Remove radiopaque materials from patients that could interfere with imaging

5. Patient Monitoring
    1. Monitors patient visually during simulation procedure
    2. Take appropriate action if patient moves or calls for assistance
    3. Recognizes emergency situation and activates appropriate response

6. Equipment Operation and Monitoring
    1. Watches all movement of unit
    2. Understands control display
    3. Knows control mechanisms response
    4. Demonstrates knowledge of machine components
    5. Detects and reports any equipment malfunctions and selects appropriate action
    6. Demonstrates troubleshooting capabilities

7. Patient Positioning and Immobilization
    1. Positions patient for optimally simulation using available tools and instrumentation as required
    2. Utilizes optimum positioning, immobilization and indexing devices
    3. Manufactures treatment aids if required
    4. Demonstrates ability to straighten and level patient
    5. Demonstrates understanding of importance of patient comfort and set up reproducibility

8. Patient Education
    1. Explains procedure appropriate to patient's level of understanding
    2. Informs patient what will be required during the procedure
    3. Correctly answers patient's questions
    4. Instructs patient on maintenance of markings
    5. Instructs patient concerning proper skin care
    6. Schedules and reinforces future appointments

9. Treatment Volume Localization
    1. Demonstrates understanding of anatomy, physiology and pathology related to procedure
    2. Uses appropriate marking procedure

10. Communication
    1. Interacts with members of the treatment team in an appropriate and effective manner
    2. Communicates relative patient information to appropriate members of the patient care team
    3. Demonstrates appropriate interactions with patients, patient's family and friends
    4. Communicate scheduling delays to patients

11. Time Management
    1. Uses available time wisely
    2. Stays within allotted time slot
    3. Sets up patient efficiently while maintaining accuracy

12. Radiation Safety and Protection
    1. Wears radiation monitoring device while in clinic
    2. Performs required procedure in ways that minimize radiation exposure to personnel and patient (ALARA)
    3. Properly utilizes shielding

13. Practice of Environmental Protection
    1. Follows environmental protection standards for handling and disposing of toxic or hazardous materials
    2. Follows standard/universal precautions
    3. Clean, wash, disinfect, or sterilize equipment and room

14. Documentation (Sem 3 Only)
    1. Documents and signs patient record appropriately
    2. Records necessary parameters in patient record (e.g. ODI, gantry angles, collimator settings)
    3. Records patient positioning, immobilization and indexing instructions in patient record
    4. Documents all charges related to simulation
    5. Documents all aspects of patient care and management in the appropriate record
    6. Documents and communicates errors and discrepancies in accordance with QA procedures

NEW PATIENT SET-UPS

The student is required to completely set-up and start three (3) new patients from simulation through treatment. The procedures may be chosen by the student, but treatment must include an original simulation, block check, if needed, treatment, and chart and charge documentation. The evaluator may assist the student much in the same way a new student would assist the therapist. These set-ups must be completed within the allotted time period and all aspects of simulation and treatment must be successfully completed in order for the student to pass the exercise. The evaluator must review the set-up, calculation, documentation and machine monitoring procedures before treatment is delivered. These exams may not be challenged until the 3rd semester.

Use clinical form – Simulation/CT Competencies

NURSING ROTATION

Students are required to rotate through the Nursing Station for one clinical week (3 days) during the first semester. This rotation provides the opportunity to interact with new patients beginning their treatment, observe patient treatment exams and post-treatment evaluations. Students must schedule this rotation with the nursing staff at the facility to which they are assigned.

Students are required to maintain the Nursing Rotation Observation Checklist. Students will be evaluated by nursing personnel using the Nursing Rotation Evaluation form. During this rotation the student is required to complete vital sign, oxygen administration and patient transfer competency. These forms will be discussed during Orientation and reviewed during meeting with program official following completion of nursing rotation.

NURSING ROTATION OBJECTIVES:

Upon completion of the nursing rotation, the student will be able to:

1. Identify and stock exam rooms with necessary nursing and radiation therapy examination supplies.
2. Properly position patients, observe, assist and have supplies ready for examinations:
    a. Head and neck, abdomen, pelvis (pelvic or GYN exam) and chest.
3. Assist physicians during the treatment exam process.
4. Recognize, organize and compile the correct documents for a radiation therapy treatment chart, if necessary utilizing hospital charts.
5. Record blood values; recognizing and reporting abnormal values.
6. Weigh and record on weight chart patient's correct weight.
7. Recognize and report adverse symptoms and signs of radiation therapy treatments.
8. Measure and record patient's vital signs: blood pressure, temperature, pulse and respiration.

9. Observe physician's examination of patient during the different types of exam, i.e., initial examination, treatment planning, weekly examination, finish examination and follow-up examination.
10. Move and lift patients, stretchers and equipment utilizing proper body mechanics.
11. Recall normal medications patients may be given or taking during radiation therapy treatments.
12. Make physical assessment of patient and make or recommend action decision.
13. Demonstrate understanding of basic CPR
14. Oxygen administration.

See Trajecsys – Nursing Form

DOSIMETRY ROTATION

During the program year, the student will have a rotation through Dosimetry. This rotation will provide the student with a better understanding of the role that dosimetry plays in the radiation therapy department. In many centers, a staff therapist would be required to perform some of the duties that are currently being conducted by our physics department. Therefore, it is important that the student grasp the knowledge gained in this area during this rotation. The student will be required to complete calculations on specified set-ups, construct a variety of treatment devices and perform specified chart checks

See Trajecsys –Comp Evals

PARTICIPATORY / OBSERVATION PROCEDURES

The student is required to observe and participate in a variety of low volume/high risk radiation therapy treatments and procedures. These include total body irradiation, craniospinal irradiation, and a GammaMed or prostate seed implant. These procedures are performed at several CARTI facilities. Students are responsible for arranging observations of these procedures with the physics/dosimetry staff.

See Trajecsys – Observation Forms

MACHINE WARM UPS

OBJECTIVE: To educate the student regarding proper warm-up and QA procedures performed daily on all equipment utilized in patient treatment to include linear accelerators (including ExacTrac) and CT scanners. Student will be able to conduct procedures utilizing the established standards for each machine. Student will be knowledgeable regarding minimum operating tolerances.

- In Semester One, one warm-up procedure will be done per rotation on the accelerator as well as two on the CT over the course of the first 4 rotations. The student will be given a simple Pass/Fail.
- Two independent warm-up procedures will be completed for each rotation to the accelerator and four total on the CT beginning Semester 2 and into Semester 3. A competency form will be filled out for each warm-up procedure completed.
- This will result in a total of 16 warm-ups on the machine and 6 on the CT.

Use clinical form – Warm-up Competency

Machine Warm Up Objectives

1. Communication
    1. Student discusses and sets up a time to come in and perform warm-up with therapist.
    2. Student is able to communicate all the necessary steps during warm-up.
    3. Student is able to communicate any concerns/issues that arise during warm-up with accuracy.

2. Punctuality
    1. Student arrives on time to perform warm-up with designated therapist.

3. Problem solving skills
    1. Student understands the tolerances for each component during warm-up and knows what actions must be taken when tolerances are exceeded.

4. Time Management
    1. Student completes warm-up in a timely manner.

5. Initiative
    1. Student completes warm-up with proper assistance based on semester.
        a. Semester 1 – with assistance
        b. Semester 2 – with minimal assistance
        c. Semester 3 – with no assistance

6. Equipment/Computer Initialization
    1. Student initializes all equipment in the proper order.

7. Verification of all Mechanical/Technical Components
    1. Student completes all of the following checks without being prompted:
        a. Machine
            1. Gantry rotation, Collimator rotation, Laser alignment, Table position, ODI accuracy, Field Size accuracy, MLC accuracy, A/V equipment and Radiation Monitor functioning properly, Door Interlock check, Beam Off check, Back-up MU check, ED Wedge QA
        b. CT
            1. Short Tube conditioning, quick IQ check of CT Number, CT Uniformity, Noise, and low contrast resolution on head portion of phantom, Levelness of CT table head to foot and side to side, Laser coincidence

8. Verification of Machine Output/ CT Number
    1. Treatment Machine - Student runs test on the machine output using the tracker.
    2. CT - Student takes a measurement of the CT Number accuracy and noise using water, Teflon, and nylon on body portion of phantom.

9. Completes all collision checks (Treatment Machine)/ Weekly CT QA (CT)
    1. Treatment Machine - Student completes all collision checks according to schedule in policy.
    2. CT - Student completes weekly QA.

10. KV Imager/CBCT Test and Alignment, Tumor Loc for CT Warm-up
    1. Treatment Machine - Student completes all imaging test and alignment procedures on the KV Imager and CBCT (when applicable).
    2. Treatment Machine - Student completes all imaging test when applicable.
    3. CT - Student completes Tumor Loc QA when applicable.

STANDARDS FOR AN ACCREDITED EDUCATIONAL PROGRAM IN RADIATION THERAPY

Effective January 1, 2021

Adopted April 2020

Introductory Statement

The Joint Review Committee on Education in Radiologic Technology (JRCERT) **Standards for an Accredited Educational Program in Radiation Therapy** are designed to promote academic excellence, patient safety, and quality healthcare. The **Standards** require a program to articulate its purposes; to demonstrate that it has adequate human, physical, and financial resources effectively organized for the accomplishment of its purposes; to document its effectiveness in accomplishing these purposes; and to provide assurance that it can continue to meet accreditation standards.

The JRCERT is recognized by both the United States Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA). The JRCERT **Standards** incorporate many of the regulations required by the USDE for accrediting organizations to assure the quality of education offered by higher education programs. Accountability for performance and transparency are also reflected in the **Standards** as they are key factors for CHEA recognition.

The JRCERT accreditation process offers a means of providing assurance to the public that a program meets specific quality standards. The process not only helps to maintain program quality but stimulates program improvement through outcomes assessment.

There are six (6) standards. Each standard is titled and includes a narrative statement supported by specific objectives. Each objective, in turn, includes the following clarifying elements:

- **Explanation** - provides clarification on the intent and key details of the objective.

- **Required Program Response** - requires the program to provide a brief narrative and/or documentation that demonstrates compliance with the objective.

- **Possible Site Visitor Evaluation Methods** - identifies additional materials that may be examined and personnel who may be interviewed by the site visitors at the time of the on-site evaluation in determining compliance with the particular objective. Review of supplemental materials and/or interviews is at the discretion of the site visit team.

Regarding each standard, the program must:

- Identify strengths related to each standard
- Identify opportunities for improvement related to each standard
- Describe the program's plan for addressing each opportunity for improvement
- Describe any progress already achieved in addressing each opportunity for improvement
- Provide any additional comments in relation to each standard

The self-study report, as well as the results of the on-site evaluation conducted by the site visit team, will determine the program's compliance with the Standards by the JRCERT Board of Directors.Standards for an Accredited Educational Program in Radiation Therapy.

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Standard One: Accountability, Fair Practices, and Public Information

The sponsoring institution and program promote accountability and fair practices in relation to students, faculty, and the public. Policies and procedures of the sponsoring institution and program must support the rights of students and faculty, be well-defined, written, and readily available.

Objectives:

1.1 The sponsoring institution and program provide students, faculty, and the public with policies, procedures, and relevant information. Policies and procedures must be fair, equitably applied, and readily available.

1.2 The sponsoring institution and program have faculty recruitment and employment practices that are nondiscriminatory.

1.3 The sponsoring institution and program have student recruitment and admission practices that are nondiscriminatory and consistent with published policies.

1.4 The program assures the confidentiality of student educational records.

1.5 The program assures that students and faculty are made aware of the JRCERT Standards for an Accredited Educational Program in Radiation Therapy and the avenue to pursue allegations of noncompliance with the Standards.

1.6 The program publishes program effectiveness data (credentialing examination pass rate, job placement rate, and program completion rate) on an annual basis.

1.7 The sponsoring institution and program comply with the requirements to achieve and maintain JRCERT accreditation.

Standard Two: Institutional Commitment and Resources

The sponsoring institution demonstrates a sound financial commitment to the program by assuring sufficient academic, fiscal, personnel, and physical resources to achieve the program's mission.

Objectives:

2.1 The sponsoring institution provides appropriate administrative support and demonstrates a sound financial commitment to the program.

2.2 The sponsoring institution provides the program with the physical resources needed to support the achievement of the program's mission.

2.3 The sponsoring institution provides student resources.

2.4 The sponsoring institution and program maintain compliance with United States Department of Education (USDE) Title IV financial aid policies and procedures, if the JRCERT serves as gatekeeper.

Standard Three: Faculty and Staff

The sponsoring institution provides the program adequate and qualified faculty that enable the program to meet its mission and promote student learning.

Objectives:

3.1 The sponsoring institution provides an adequate number of faculty to meet all educational, accreditation, and administrative requirements.

3.2 The sponsoring institution and program assure that all faculty and staff possess the academic and professional qualifications appropriate for their assignments.

3.3 The sponsoring institution and program assure the responsibilities of faculty and clinical staff are delineated and performed.

3.4 The sponsoring institution and program assure program faculty performance is evaluated and results are shared regularly to assure responsibilities are performed.

3.5 The sponsoring institution and/or program provide faculty with opportunities for continued professional development.

Standard Four: Curriculum and Academic Practices

The program's curriculum and academic practices prepare students for professional practice.

Objectives:

4.1 The program has a mission statement that defines its purpose.

4.2 The program provides a well-structured curriculum that prepares students to practice in the professional discipline.

4.3 All clinical settings must be recognized by the JRCERT.

4.4 The program provides timely, equitable, and educationally valid clinical experiences for all students.

4.5 The program provides learning opportunities in advanced imaging and/or therapeutic technologies.

4.6 The program assures an appropriate relationship between program length and the subject matter taught for the terminal award offered.

4.7 The program measures didactic, laboratory, and clinical courses in clock hours and/or credit hours through the use of a consistent formula.

4.8 The program provides timely and supportive academic and clinical advisement to students enrolled in the program.

4.9 The program has procedures for maintaining the integrity of distance education courses.

Standard Five: Health and Safety

The sponsoring institution and program have policies and procedures that promote the health, safety, and optimal use of radiation for students, patients, and the public.

Objectives:

5.1 The program assures the radiation safety of students through the implementation of published policies and procedures.

5.2 The program assures each energized laboratory is in compliance with applicable state and/or federal radiation safety laws.

5.3 The program assures that students employ proper safety practices.

5.4 The program assures that all radiation therapy procedures are performed under the direct supervision of a qualified practitioner.

5.5 The sponsoring institution and/or program have policies and procedures that safeguard the health and safety of students.

Standard Six: Programmatic Effectiveness and Assessment: Using Data for Sustained Improvement

The extent of a program's effectiveness is linked to the ability to meet its mission, goals, and student learning outcomes. A systematic, ongoing assessment process provides credible evidence that enables analysis and critical discussions to foster ongoing program improvement.

Objectives:

6.1 The program maintains the following program effectiveness data:

- five-year average credentialing examination pass rate of not less than 75 percent at first attempt within six months of graduation,
- five-year average job placement rate of not less than 75 percent within twelve months of graduation, and
- annual program completion rate.

6.2 The program analyzes and shares its program effectiveness data to facilitate ongoing program improvement.

6.3 The program has a systematic assessment plan that facilitates ongoing program improvement.

6.4 The program analyzes and shares student learning outcome data to facilitate ongoing program improvement.

6.5 The program periodically reevaluates its assessment process to assure continuous program improvement.

Awarding, Maintaining, and Administering Accreditation

A. Program/Sponsoring Institution Responsibilities

1. Applying for Accreditation

The accreditation review process conducted by the Joint Review Committee on Education in Radiologic Technology (JRCERT) is initiated by a program through the written request for accreditation sent to the JRCERT, on program/institutional letterhead. The request must include the name of the program, the type of program, and the address of the program. The request is to be submitted, with the applicable fee, to:

Joint Review Committee on Education in Radiologic Technology 20 North Wacker Drive, Suite 2850
Chicago, IL 60606-3182

Submission of such information will allow the program access to the JRCERT's Accreditation Management System (AMS). The initial application and self-study report will then be available for completion and submission through the AMS.

2. Administrative Requirements for Maintaining Accreditation

a. Submitting the self-study report or a required progress report within a reasonable period of time, as determined by the JRCERT.

b. Agreeing to a reasonable site visit date before the end of the period for which accreditation was awarded.

c. Informing the JRCERT, within a reasonable period of time, of changes in the institutional or program officials, program director, clinical coordinator, full-time didactic faculty, and clinical preceptor(s).

d. Paying JRCERT fees within a reasonable period of time. Returning, by the established deadline, a completed Annual Report.

e. Returning, by the established deadline, any other information requested by the JRCERT.

Programs are required to comply with these and other administrative requirements for maintaining accreditation. Additional information on policies and procedures is available at www.jrcert.org.

Program failure to meet administrative requirements for maintaining accreditation will lead to Administrative Probationary Accreditation and potentially result in Withdrawal of Accreditation.

B. JRCERT Responsibilities

1. Administering the Accreditation Review Process

   The JRCERT reviews educational programs to assess compliance with the Standards for an Accredited Educational Program in Radiation Therapy.

   The accreditation process includes a site visit.

   Before the JRCERT takes accreditation action, the program being reviewed must respond to the report of findings.

   The JRCERT is responsible for recognition of clinical settings.

2. Accreditation Actions

   Consistent with JRCERT policy, the JRCERT defines the following as accreditation actions:

   Accreditation, Probationary Accreditation, Administrative Probationary Accreditation, Withholding Accreditation, and Withdrawal of Accreditation (Voluntary and Involuntary).

   For more information regarding these actions, refer to JRCERT Policy 10.200.

   A program or sponsoring institution may, at any time prior to the final accreditation action, withdraw its request for initial or continuing accreditation.

Educators may wish to contact the following organizations for additional information and materials:

Accreditation:
Joint Review Committee on Education in Radiologic Technology
20 North Wacker Drive, Suite 2850
Chicago, IL 60606-3182
(312) 704-5300
www.jrcert.org

Curriculum:
American Society of Radiologic Technologists
15000 Central Avenue, S.E.
Albuquerque, NM 87123-3909
(505) 298-4500
www.asrt.org

Certification:
American Registry of Radiologic Technologists
1255 Northland Drive
St. Paul, MN 55120-1155
(651) 687-0048
www.arrt.org

JRCERT
20 North Wacker Drive
Suite 2850
Chicago, IL 60606-3182
(312) 704-5300
(312) 704-5304 (fax)
mail@jrcert.org (e-mail)
www.jrcert.org

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