

AAS Radiologic Technology
Program Handbook



AAS-RAD
Colorado Technical University

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Chapter 1

Introduction

Welcome to the Radiologic Technology Program!

We are pleased that you have chosen Colorado Technical University (CTU) to pursue your academic and career goals.

This handbook is designed to help you make a smooth transition into the Radiologic Technology Program at CTU. It is important to establish and maintain professional relationships with your peers, faculty and staff, and eventually your employer. Professionalism will be stressed throughout your academic degree program, so that you may become a successful medical team member. Below are some useful tips to help you reach your goals.

1. Attitude is essential. Your attitude shows every day! Make sure you always conduct yourself in a way that demonstrates your professionalism and concern for everyone.
2. Attendance is of utmost importance. It shows that you are a dependable person that the team can count on.
3. Your appearance is your first impression. As a medical professional, it is imperative that you are always neat and clean. Please refer to the dress code in this handbook.
4. Faculty, staff, patients, and peers should be treated with respect at all times. A courtesy title should be used unless instructed to do otherwise.
5. Take initiative and be a motivated self-starter. This attribute will open many doors for you in the future. Do it here!
6. Promptness is required not only for class time, but also for assignments. There is absolutely no tolerance for team members who are late. A student's routine tardiness may result in disciplinary action, including withdrawal from a clinical site. We will not send an undisciplined student to a clinical site.
7. Monitor your progress by recording your grades and asking for help any time you need it. Proactive behavior on your part can greatly increase your chance for success at CTU.

8. Be mature and open to constructive criticism. During your clinical and lab time you will receive a significant amount of constructive criticism. Be cooperative and mature. Receive the instruction in a professional manner. Remember that it is only to make you the best Surgical Technologist on the team!

University Policy and Program Changes

This handbook contains a summary of the policies, rules and procedures for the Associate of Science degree Radiologic Technology program of Colorado Technical University at the time of publication that supplement the CTU Catalog – Degree Programs, CTU Catalog – University Policies and the Student Handbook. From time to time, it may be necessary or desirable for the University to make changes to this handbook due to the requirements and standards of the University's accrediting body, state licensing agency, the U.S. Department of Education, market conditions, employer needs or other reasons. The University reserves the right to make changes to any provision of this handbook, including the academic programs and courses, school policies and procedures, faculty and administrative staff, the academic calendar and other dates, and other provisions at any time. The University also reserves the right to make changes in the instructional materials, to modify curriculum and, when size and curriculum permit, to combine classes. Students are expected to be familiar with the information presented in this handbook and with all school policies. Notice of these changes will be communicated in a revised handbook, an electronic notice, or written format. By enrolling with the University, students agree to accept and abide by the terms stated in this handbook and all school policies. If there is any conflict between any statement in this handbook and the enrollment agreement signed by the student, the provision in the enrollment agreement controls and is binding.

Introduction

The purpose of clinical education is to acquire proficiency in the knowledge, insight, and skills required to produce diagnostic radiographs while practicing appropriate radiation protection measures. The development of the interpersonal skills necessary to care effectively for patients and dealings with other members of the health care delivery team is of utmost importance.

This manual has been designed to orientate the Radiologic Technology student to program policies and procedures. This student handbook supplements the CTU Catalog – Degree Programs, CTU Catalog – University Policies and Student Handbook with program specific information and policies that may differ from those in these University documents.

Colorado Technical University Radiologic Technology Mission Statement

The Radiologic Technology Program provides educational opportunities for students to develop knowledge, skills, and attitudes conducive to the challenges within the field of radiography. Experiences in this program prepare students in a variety of settings to practice effectively with clients with diverse health needs across their life span.

Colorado Technical University Radiologic Technology Program Purpose

The purpose of the Colorado Technical University Radiologic Technology Program is to prepare the individual for an entry-level position as a professional medical radiographer. Within the stimulating college environment, the student will be afforded the opportunity to achieve educational and personal growth goals while developing the technical skills necessary for success as a professional medical radiographer.

The Radiologic Technology Program is designed to provide the radiologic health care team with a member who uses ionizing radiation in an investigative function, contributing to the diagnosis of disease, conditions, injury and prognosis. The program will introduce technical and clinical skills through active participation in an organized sequence of classroom, laboratory, and clinical externships provided in the curriculum.

Colorado Technical University Radiologic Technology Program Objective

This program teaches the student to implement radiographic procedures, radiation protection, radiologic physics, image production and evaluation of radiographs. These procedures are conducted in a caring, safe, effective, and legal manner. The student is exposed to strategies that will teach him/her to work effectively with other health care professionals, patients, and families to promote patient diagnosis and recovery.

Colorado Technical University Radiologic Technology Program Goals

Upon completion of the Radiologic Technology program, each student will:

1. Develop problem solving, and critical thinking skills to function in the clinical setting.

2. Demonstrate and deliver both verbal and written communication skills in the health care setting
3. Demonstrate clinical competency and deliver quality patient care.
4. Achieve the necessary knowledge, skills, and attitudes to work with clients with diverse health needs across the life-span.

Colorado Technical University Radiologic Technology Program Outcomes

Upon completion of the program, each student will be able to achieve the following outcomes:

1. Communicate effectively with all members of the healthcare team
2. Demonstrate professionalism within the clinical setting
3. Perform routine radiographic procedures
4. Produce a quality radiograph with applied knowledge of anatomy, positioning, technical factors, and image quality
5. Analyze a finished radiograph
6. Implement the proper procedures for non-routine procedures
7. Apply safe and effective radiation practices
8. Provide age appropriate patient care and safety
9. Meet the clinical requirements of an entry level practitioner as indicated by employers

CHAPTER 2

Radiologic Technology Program Standards

Colorado Technical University Radiologic Technology Program Accreditation

In 1996, Colorado Technical University Radiologic Technology Program (formerly Sanford Brown College) was awarded accreditation by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The Radiologic Technology Program continues to be recognized and accredited by JRCERT and is recognized as an approved educational program for certification with the American Registry of Radiologic Technologist (ARRT).

JRCERT Standards

The JRCERT believes that the accreditation process offers a means of providing public assurance that a program meets standards and is capable of stimulating programmatic improvement. According to the JRCERT **Standards for an Accredited Educational Program in Radiography**, published at www.jrcert.org, a program is required to articulate its purposes and scope; demonstrate that the program has adequate human, financial, and physical resources effectively organized for the accomplishment of program purposes; document program effectiveness in accomplishing program purposes; and provide assurance that the program can continue to meet accreditation standards. **Using these Standards**, the goals of the accreditation process protects the student and the public, stimulate programmatic improvement, provide protective measures for federal funding or financial aid, and promote academic excellence.

There are six (6) standards each accredited program is expected to meet. Each standard includes a series of objectives. All standards and objectives must be met for a program to demonstrate compliance, thereby maintaining accreditation.

Standard One: Integrity

Standard Two: Resources

Standard Three: Curriculum and Academic Practices

Standard Four: Health and Safety

Standard Five: Assessment

Standard Six: Institutional/Programmatic Data

http://www.jrcert.org/acc_standards.html

ARRT Standard of Ethics and Mission Statement / ASRT Mission Statement

Our Mission

The American Registry of Radiologic Technologists promotes high standards of patient care by recognizing qualified individuals in medical imaging, interventional procedures and radiation therapy.

The modalities of interest include, but are not necessarily limited to: radiography, nuclear medicine technology, radiation therapy, cardiovascular-interventional radiography, mammography, computed tomography, magnetic resonance imaging, quality management, sonography, bone densitometry, vascular sonography, cardiac-interventional radiography, vascular-interventional radiography, breast sonography and radiologist assistant.

In support of this mission, the ARRT:

- Adopts and upholds standards for educational preparation for entry into the profession;
- Adopts and upholds standards of professional behavior consistent with the level of responsibility required by professional practice;
- Develops and administers examinations which assess the knowledge and skills underlying the intelligent performance of the tasks typically required by professional practice in the modality.

In addition to initial recognition, ARRT provides a mechanism to recognize individuals who continue to demonstrate their qualifications through adherence to the standards of professional behavior and compliance with the continuing education requirements.

ARRT Rules and Regulations

Colorado Technical University enforces all rules and regulations set forth by the American Registry of Radiologic Technologists (ARRT). For a complete

listing of the most current ARRT Rules and Regulations, students should visit: <http://www.arrt.org/about/rulesandregs.pdf>

Colorado Technical University's Radiologic Technology program mirrors the Standards of Ethics set forth by the American Registry of Radiologic Technologists (ARRT). For a complete listing of the most current ARRT Standards of Ethics students should visit: <http://www.arrt.org/ethics/standardethic.pdf>

ASRT Vision, Mission, Core Values and Value Propositions

ASRT Mission

The mission of the American Society of Radiologic Technologists is to advance the medical imaging and radiation therapy profession and to enhance the quality of patient care.

ASRT Vision

The American Society of Radiologic Technologists will be the premier professional association for the medical imaging and radiation therapy community through education, advocacy and research.

ASRT Core Values

Commitment:

We share a common purpose and give our personal best to transform ASRT's vision into reality.

Leadership:

We guide and inspire internal and external stakeholders to achieve ASRT's mission and vision.

Integrity:

We practice transparency by telling the truth, obeying the law, acting ethically, fulfilling expectations and keeping promises we make.

Creativity:

We are adaptable and flexible to new possibilities and discoveries, and we provide an environment that encourages creative solutions.

Accountability:

Each of us stands responsible for achieving targeted outcomes, cost effectiveness and improved performance in all that we do.

ASRT Value Propositions:

We use a quality framework to achieve customer centricity and operational excellence.

Customer Centricity:

Understand and address the needs of the radiologic technology community to strengthen relationships and earn customer loyalty.

Operational Excellence:

Deliver a combination of service, quality, price and ease of use that other associations and organizations can't match.

<https://www.asrt.org/content/aboutasrt/MissionVisionValues.aspx>

Patient's Bill of Rights

The American Hospital Association presents A Patient's Bill of Rights with the expectation that it will contribute to more effective patient care and be supported by the hospital on behalf of the institution, its medical staff, employees, and patients. You can view the patient's bill of rights at the following web page.

http://www.patienttalk.info/AHA-Patient_Bill_of_Rights.htm

Chapter 3

Student Resources

Student Guidance

Students will be faced with many new situations during their education experiences and may frequently need help in making adjustments or solving problems. They should not hesitate to consult the faculty in these matters. The student is responsible for arranging conferences, as necessary, for the purpose of private discussions. Trained admissions, financial aid, career services representatives and the Radiologic Technology Program Chair are available to assist with enrollment, financial aid, academic matters, and job readiness.

Students may also seek out assistance with Student Resource Services. Student Resource Services is a confidential program that provides professional assistance and valuable resources to help resolve issues that interfere with school success. Students may access Student Resource Services by calling 1-866-640-4777 or www.studentlifetools.com. Students may obtain a username and password from any Colorado Technical University official.

Student Activities

Social recreational activities depend largely upon the wishes of the class. The faculty believes that social activities play an important part in the development of well-adjusted individuals. Proper forms must be submitted to the Colorado Technical University administration for approval prior to any social or educational function of the Radiologic Technology program that is identified as a class activity. Examples: Guest Lectures, trips, conferences, seminars, etc.

Student and Professional Organizations

All students at Colorado Technical University are provided the opportunity to become a member of a student organization. Student Organizations provide leadership opportunities.

Radiologic Technology students are encouraged to become student members to the Missouri Society of Radiologic Technologist (MSRT), a professional society that offer opportunity for professional development, scientific competitions, and scholarships. An annual seminar sponsored by the MSRT is scheduled during

the spring of each year and students are encouraged to attend and participate in competitive events. Students are eligible to attend the annual conference if they are in good standing with the program and school, have not been placed on probation/warning at any time during the program, must have a GPA of 3.0 and be passing all current classes at the time of application. Students who submit an application and payment and do not attend conference will be responsible for the funds that had been paid up to that point.

All Radiologic Technology students also have the opportunity to participate in the CTU Radiologic Technology Club. This club is designed to promote fellowship and encourage leadership among Radiologic Technology students. The mission statement of the Radiologic Technology Club is:

To promote scholarship, encourage leadership, and cultivate fellowship while developing technical skills as radiographers and professional ethics and integrity as members of the medical community.

Radiologic Technology students may also qualify, during Quarter 8 of the program, to be an active member of the Lambda Nu, national honor society for the radiologic and imaging sciences. The Lambda Nu objectives are to:

- Foster academic scholarship at the highest academic levels
- Promote research and investigation in the radiologic and imaging sciences
- Recognize exemplary scholarship
- Promote fellowship among membership.

There are currently 100 LN Chapters in 39 states with new chapters being issued every month. For additional information please refer to the Colorado Technical University, North Kansas City Campus Chapter of Lambda Nu Bi-Laws.

Colorado Technical University Student Senate

Colorado Technical University Radiologic Technology Club

Colorado Technical University Lambda Nu Chapter

The American Society of Radiologic Technologist (ASRT) is the national organization of the profession. Specific information regarding the ASRT may be found at: www.ASRT.org

The Missouri Society of Radiologic Technologist (MSRT) is the state organization of the profession. Specific information regarding MSRT may be found at: www.MoSRT.org

All Radiologic Technology students are encouraged to participate at all levels of professional organizations.

Liability Insurance / Healthcare Insurance

In accordance/compliance with JRCERT accreditation standards: Radiologic Technology students must carry liability insurance during all clinical phases of the program. This insurance is provided to Radiologic Technology students by Colorado Technical University at no additional cost to the student.

Radiologic Technology students at Colorado Technical University are not required to maintain private healthcare insurance. Students wishing to establish healthcare insurance should contact the Student Services Department.

Learning Resource Center

Colorado Technical University (CTU) places special emphasis on hands-on training utilizing equipment and technology used by today's business and health care professionals.

Each CTU campus houses a modern, spacious, Learning Resource Center (LRC) that supports the academic programs of its respective campus. Every CTU student attends an orientation which will provide a short overview of everything that the LRC has to offer.

Technology is the cornerstone of the LRC's array of information on-line and on CD-ROM, along with Internet access and print materials. Additionally, there is a Cybrary available on the student learning platform. The Cybrary provides vast resources and tutorials to assist the student learner. The Cybrary is available for all students with internet access. The LRC is open daily except, Sundays and major holidays.

Student Tutoring

Tutoring is available by appointment with Radiologic Technology CTU faculty.

Peer tutoring is also available to all Colorado Technical University students. Peer tutoring is provided by the Learning Resource Center (LRC). Students are encouraged to see the director of the LRC for specifics on times available for peer tutoring. There are limited Radiologic Technology students available for peer tutoring.

Student Certification / Licensure

Terminology used in establishing the authority of a technologist is often confusing. Colorado Technical University adapts the use of the term *certification* to that definition used by the American Registry of Radiologic Technologists. Once a student has satisfied all requirements necessary and successfully challenges the ARRT examination, that individual obtains certification from the ARRT.

Licensure most commonly refers to state requirements for the production of ionizing radiation. Each state governs the requirements for licensure in that particular state rather than the ARRT. Some states mirror ARRT guidelines while other states have no requirements. There are only a small percentage of states that require licensure. The list of states is provided by the American Society of Radiologic Technologists (ASRT). The ASRT provides a list of licensure states for radiography, radiation therapy, nuclear medicine, limited license, mammography, fusion imaging and many others. Students are encouraged to visit the ASRT web site for more information regarding state licensure.

(www.asrt.org)

Chapter 4:

Academic Policies and Procedures

Admission Requirements

Effective July 26, 2011, this program is no longer available for future enrollments

Students interested in the Radiologic Technology Program are admitted to the University on the same basis as all other students. However, admission to the University does not ensure admission into the Radiologic Technology Program. All applicants desiring to pursue formal programs of study in the Radiologic Technology Program at Colorado Technical University culminating in the award of an Associate of Applied Science Degree in Radiologic Sciences must satisfy the following admissions requirements for consideration to the Radiologic Technology Program.

1. All students enrolling in undergraduate programs will be required to provide a proof of high school graduation (POG) or its equivalency development (GED) to Colorado Technical University within 30 days of the beginning of school. Acceptable documentation of high school graduation or its equivalency include a copy of a high school transcript and diploma, GED transcript and certificate, a DD-214 form, or other written verification that demonstrates high school graduation or equivalency.
2. Participate in an Information Session with an Admissions Representative.
3. Students must successfully complete the entrance testing requirement provided by Colorado Technical University to be considered for the Radiologic Technology Program.
4. Provide three (3) professional references returned to CTU in sealed envelope. It is recommended that these be from former instructors, employers and/or friends.
5. Complete and submit the Interview Questionnaire.
6. Provide a Letter of Intent.
7. Participate in a small group information session with radiologic staff members.
8. International students must demonstrate proficiency in the English language as measured by a TOEFEL score of 550 or above, 213 or higher on the computer-based exam.

9. Complete a criminal background investigation.

Note: Students will be required to complete a physical exam and provide documentation of required immunizations prior to the start of their clinical education.

Recommended Criteria:

In addition to the required materials, potential students are strongly encouraged to complete the recommended Hospital Observation before their interview with the program faculty.

Students must complete and submit all admissions/application criteria materials, to the program chair, by the posted “start” deadline to be considered a Radiologic Technology program applicant.

Before final consideration is given to a student’s application for admission into the Radiologic Technology Program, the student must, as part of the admission application, attest that he/she is able to perform basic necessary work in the Radiologic Technology profession. According to the nature of the work required in the program and the radiology profession, the applicant must be able to:

- a. reach, manipulate, and operate equipment necessary for radiography;
- b. move, manipulate, and observe a patient as necessary for radiography;
- c. visually assess patient’s medical test results and the working environment to correctly decide the appropriate action to take for the benefit of the patient;
- d. clearly communicate, both verbally and in writing, with the patient, family, personnel, and others; disseminate information relevant to patient care and work duties; and have auditory acuity to accurately gather information relevant to patient and work duties;
- e. make appropriate judgment decisions in an emergency or where a situation is not clearly governed by specific guidelines;
- f. utilize routine and non-routine decision making processes, in the daily execution of didactic and clinical assignments, as they relate to day-to-day interaction with patients, staff, family, and others.

Continued Program Eligibility

- All students must successfully complete any and all courses in which they are enrolled in Quarter 1 to receive full acceptance into the Radiologic Technology program.
- All students must maintain a 2.0 GPA.
- All students enrolled in the Radiologic Technology program must pass core healthcare courses, science and math courses with a 76% (C+) or greater. Failure to obtain a 76% (C+) will result in the student having to repeat the course.
- All students enrolled in the Radiologic Technology program at CTU may **ONLY** repeat a core healthcare course or science course **once**. If the student fails the course in the second attempt with a grade less than 76% (C+), they will be dismissed from the program.
- Likewise, if a student fails two core courses (grade less than 76%) in healthcare or science, the student will be dismissed from the Radiologic Technology Program.
- Voluntarily withdrawing from a core healthcare course or science course will be treated the same as a course failure.
- Students who are dismissed for academic reasons will not be allowed to reapply to the program.
- Students who are dismissed for conduct or behavior issues (refer to program infractions page 28-30) will not be allowed to reapply to the program.

Completion Dates

Upon acceptance into the Radiologic Technology program, students will indicate their anticipated completion date. Students who alter their anticipated completion date due to course failures, course withdrawals, leave of absence, etc. will be allowed to enter a new cohort based on space available.

Tuition / Financial Aid

General Information:

One of the most important decisions an individual will make in their lifetime is that related to education. This decision, and subsequent follow-through, will have a great impact on career choices, advancement opportunities, and lifetime income. Colorado Technical University is a private, tax-paying institution of higher education funded solely by the tuition and fees of its students. The cost of educational service is based on the operational expenses incurred by the institution to provide industry current educational programs, facilities, equipment, faculty, and student support services.

Cost of Education:

A list of the tuition costs and fees may be found in the CTU Catalog – Kansas City Tuition and Financial Policies Insert. Due to the non-refundable nature of these fees, students are encouraged to discuss their educational plans in advance with their admission's advisor.

Financial Assistance:

Colorado Technical University participates in a variety of financial aid programs for the benefit of students. Students must meet the eligibility requirements of these programs in order to participate. CTU administers its financial aid programs in accordance with prevailing federal and state laws and its own institutional policies. Students are responsible for providing all requested documentation in a timely manner. Failure to do so could jeopardize the student's financial aid eligibility. In order to remain eligible for financial aid, a student must maintain satisfactory academic progress as defined in the CTU catalog.

Academic Honesty

All students are expected to conform to the accepted standards of academic honesty. See the Academic Honesty section of the CTU Catalog – University Policies found on the CTU website at:

<http://www.coloradotech.edu/Admissions/Documents-And-Resources>

Reasonable Accommodations for Individuals with Disabilities

See the Reasonable Accommodations for Individuals with Disabilities section of the CTU Catalog – University Policies found on the CTU website at:

<http://www.coloradotech.edu/Admissions/Documents-And-Resources>

University Grading Policies (Grading, Undergraduate Grade Scale, Grade Appeal)

See each grading policy section of the CTU Catalog – University Policies found on the CTU website at:

<http://www.coloradotech.edu/Admissions/Documents-And-Resources>

Student Grievance

See the Student Grievance policy section of the CTU Catalog – University Policies found on the CTU website at:

<http://www.coloradotech.edu/Admissions/Documents-And-Resources>

Should a grievance or other unresolved issue occur, any radiologic student, at any time, may contact JRCERT by mail by submitting information to:

The Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive Suite 2850
Chicago, IL 60606-3182
Telephone: (312) 704-5300

Radiologic Technology Program Course Sequence

The Radiologic Technology program is a lock-step, competency based program. Each quarter, students are assigned to specific courses as one cohort. This will allow students to satisfactorily progress in the Radiologic Technology program. There is no deviation from the published course sequence. If students fail a course they are likely to fall out of sequence with their cohort, will be counseled on an individual basis, and will be allowed to enter a new cohort based on space available.

Because the Radiologic Technology program is offered thru a lockstep sequence students who reapply, are readmitted and/or take a leave of absence will need to fit into sequence, which will result in alternative course scheduling.

Students whom are involved in the appeals process for dismissal will only be allowed to resume their classes during the term when the appropriate needed courses are offered.

1st Quarter

Creating Academic and Professional Success
Business Algebra***requires (C+)**
Information Technology and Literacy
Human Anatomy & Physiology ***requires (C+)**

2nd Quarter

Introduction to Radiologic Science and Patient Care***requires (C+)**
Human Anatomy & Physiology II***requires (C+)**
Patient Care and Radiological Science Lab (44 hrs.)***requires (C+)**

3rd Quarter

Image Production & Evaluation I***requires (C+)**
Appendicular Procedures***requires (C+)**
Soft Tissue Procedures***requires (C+)**

4th Quarter

Image Production & Evaluation II***requires (C+)**
Axial Procedures***requires (C+)**
Clinic I (2 days X 11 weeks = 176 hours)***requires (C+)**

5th Quarter

Medical Law & Ethics***requires (C+)**
Cranium***requires (C+)**
Clinic II (2 days X 11 weeks = 176 hours)***requires (C+)**
English I

6th Quarter

English II
Equipment Operations***requires (C+)**
Clinic III (3 days X 11 weeks = 264 hours)***requires (C+)**

7th Quarter

Introduction to Business
Introduction to Psychology
Radiobiology***requires (C+)**
Clinic IV (3 days X 11 weeks = 264 hours)***requires (C+)**

8th Quarter

Clinic V (2 days X 11 weeks = 176 hours)***requires (C+)**
Advanced Modalities***requires (C+)**
Registry Review***requires (C+)**

Clinical hours = 102 Credit Hours + 1056 Radiologic Technology Program Course Descriptions

A complete listing of all Radiologic Technology course descriptions that include course objectives, core outcomes, and all prerequisite requirements are found in the CTU Catalog – Degree Programs. A complete listing of master course objectives along with course descriptions are also found in the office of the Radiologic Technology Program Chair. Students may contact the Admissions Office if they would like a hard copy of the catalog. An electronic version of the CTU Catalog – Degree Programs is provided to **all** students registered at Colorado Technical University via the CTU website:

<http://www.coloradotech.edu/Admissions/Documents-And-Resources>

Attendance / Tardiness Policy

Given the technical nature of healthcare, attendance is of the utmost importance. Attendance is a key component in obtaining the most from the course. Regular attendance is strongly encouraged and expected. In the absence of regular attendance by the student, class participation becomes compromised and may have the potential for adversely impacting your final grade. For example, students will miss potential points available for in class participation. Additionally, there may be unannounced activities and/or in-class quizzes. Only those students in attendance that session are eligible to receive the points assigned to those activities.

Students are held accountable for knowledge of all material covered and all announcements delivered in class. It is the students' responsibility to obtain any notes, handouts, or announcements missed due to absence. Frequently, lecture notes are placed on the student learning platform.

Radiologic Technology students may only have two (2) absences in any course. On the third (3) absence, the student will be withdrawn from the course and a grade of 'W' will be assigned for that course. Students providing documentation for their absences will be evaluated and dealt with on a case by case basis.

Informational Security Policies

- Students who breach information security policies (including but not limited to using another's password or sharing his/her password) will fail the externship and may be dismissed from the program.
- All information (including but not limited to patient or other proprietary information) gained from clinical sites is deemed to be confidential. Sharing of this information in any form (repeating to another individual, posting on social media sites, etc.) is a breach of confidentiality and unprofessional conduct and will result in immediate dismissal from the University.
- Social Networking Definition- an online service, platform, or site that focuses on building social network or social relations among people who share interests and/or activities. Examples include but are not limited to: **Facebook, MySpace, Flickr, Twitter, YouTube, Adobe Connect Now, and LinkedIn.**
- Cellular phones and cameras are prohibited in patient care areas- security violations will result in clinical disciplinary actions.

Inclement Weather

In the event of inclement weather, the Director of Education along with other key faculty members will close the campus for safety reasons. Should the CTU campus be closed, students are **NOT** required to attend classes **OR** clinical rotations. If CTU requires the inclement weather day to be made up, all students will be required to make up the course or clinical time on that date. Safety of the student is imperative. Therefore, since clinical education settings could be up to two (2) hours away and a student feels that he/she may not safely drive to that clinical education setting he/she should not attempt to do so. The make-up time for inclement weather absences will be addressed on a case-by-case basis. If the student cannot travel to the clinical site, the student **must** contact the instructor **AND** clinical site (if applicable) to inform them of the absence.

Rules of Infraction

The following table lists infractions and the resulting action.

Table 1

Infraction	Occurrence	Action
Failure to participate or perform assigned duties	1 st 2 nd	Written warning Dismissal from clinical site
Failure to maintain proper dress, appearance, or hygiene	1 st 2 nd 3 rd	Written warning Suspension – 1 Day Dismissal from clinical site
Insubordination	1 st 2 nd	Suspension – 1 Day Dismissal from program
Discourteous treatment of others	1 st 2 nd	Written warning Dismissal from program
Incompetence, neglect of duty, poor performance	1 st 2 nd 3 rd	Written warning Suspension – 1 Day Dismissal from program
No Call / No Show, failure to report, leaving clinical site Students are REQUIRED to contact the clinical site AND clinical	1 st	Dismissal from program

coordinator.		
Violation of safety rules and regulations	1 st 2 nd 3 rd	Written warning Suspension – 1 Day Dismissal from program
Divulging confidential patient information	1 st	Dismissal from program
Gambling on hospital property	1 st 2 nd	Written warning Dismissal from program
Use of profanity around patients or hospital personnel	1 st 2 nd 3 rd	Written warning Suspension – 1 Day Dismissal from program
Physical altercation	1 st	Dismissal from program
Theft or falsification of records	1 st	Dismissal from program
Under the influence of drugs or alcohol. Drugs include the abuse of prescription drugs.	1 st	Dismissal from program
Possession of drugs or alcohol at the clinical site	1 st	Dismissal from program
Failure to maintain student records	1 st 2 nd 3 rd	Written warning Suspension – 1 Day Dismissal from program
Removal from clinical site	1 st	'F' for quarter grade. If 2 nd core course failure, student will be dismissed from the program
Unprofessional behavior	1 st	Written warning or up to Dismissal from program

RAD Core Failures	1 st 2 nd	Remediation, Repeat Course Program Dismissal
Violation of Scope of Practice – failure to comply with JRCERT Supervision Policies	1 st	Program Dismissal

* Multiple violations may result in program dismissal.

Unprofessional behavior

If a student displays conduct that is unprofessional, the student maybe removed from the clinical site or classroom environment. This includes any actions that may be deemed unprofessional by the site manager/clinical coordinators or program chairs. Verbal or nonverbal language, actions, or voice inflection which compromises rapport with patients, family members, physicians, nurses, other staff or instructors are also example of unprofessional behavior and will not be tolerated. Students are also held to the Student Conduct Policy found in the Student Handbook and CTU Catalog – University Policies, which are located at <http://www.coloradotech.edu/Admissions/Documents-And-Resources>; the Radiologic Technology Rules of Infraction supplement the Student Handbook.

Dress Code

To ensure the health and safety of health science students and the patients for which they care, students are not permitted to wear tongue rings, multiple or dangling earrings, bracelets, necklaces, artificial nails, perfume or cologne in the laboratory or clinical areas. Additionally, tattoos and piercings must be covered during laboratory and clinical experiences. Students may wear a wristwatch with a second-hand, a wedding band, and 1 set of post earrings.

Students are required to wear institutionally approved scrub uniforms during ALL laboratory sessions without exception. Likewise, students must wear approved scrub uniforms during the clinical/externship experiences. While at the clinical educational setting, each student **MUST** wear monogrammed scrub tops or a patch identifying them as a clinical student from CTU.

Students will not be allowed to remain in the laboratory or on the clinical area if the dress code is not followed and the student will be considered absent.

Pregnancy Policy

The purpose of the student pregnancy policy is to assure students a safe pregnancy and to be in compliance with Federal and state radiation control guidelines, the Equal Employment Opportunity Commission guidelines, and the Nuclear Regulatory Commission regulations regarding the declared pregnant student. Pregnant radiology students may continue in the Radiologic Technology program. It is the student's responsibility to utilize the guidelines set forth in this policy for protection of the embryo/fetus and self. The Nuclear Regulatory Guide # 8.13 regarding instructions concerning prenatal radiation exposure is discussed with all students prior to acceptance into the Radiologic Technology program.

Policy:

1. The female student will be counseled and given the Nuclear Regulatory Guide concerning prenatal exposure, will be informed concerning safeguards against accidental irradiation early in pregnancy and will discuss any concerns about dealing with pregnancy in diagnostic radiology with the Radiologic Technology Program Director and/or the Academic Clinical Coordinator.
2. Any known pregnancy may be voluntarily reported in writing to the Academic Clinical Coordinator and the Radiologic Technology Department Director. If the student chooses to voluntarily inform officials of her pregnancy it must be in writing. The program faculty will discuss with the pregnant radiography student the effects of irradiation in-utero, inclusive of radiation protection practices. At any time after declaring a pregnancy the student may un-declare the pregnancy in writing. Students will not be considered to be pregnant unless written notification is provided. It is the student's responsibility to inform the program in writing and to take the appropriate precautions to protect the fetus.
3. The pregnant student radiographer will sign the Declaration of Pregnancy Form to acknowledge comprehension of the information provided by the program faculty. The student will be issued a copy of Nuclear Regulatory Guide #8.13 and NCRP Report #116 (Radiation dose limit for embryo and fetus in occupationally exposed women), and NCRP #105 (Medical Radiation Exposure of Pregnant and Potentially Pregnant Women).
4. An additional film badge (fetal badge) will be issued to the student to be worn at waist level **under** the protective apron at all times. The exposure reported on this second monitor should be maintained on a separate record and identified as exposure to the fetus or fetal dose.
5. According to the NCRP Report #116, the maximum permissible dose equivalent from occupational exposure to the fetus is 500 millirem during gestation.
6. The monthly radiation dosimetry report inclusive of accumulative dose for each individual is made available to the program faculty and the student.

7. In accordance with the pregnancy policy of the specific clinical assignment, if fluoroscopy and mobile radiography are performed, the pregnant student radiographer must wear an apron with a minimum of 0.5 mm lead equivalent, which will attenuate approximately 88% of the primary beam at 75 kVp. *(If available, a 1.0 mm lead equivalent apron should be worn. A 1.0 mm lead equivalent apron will attenuate 99% of the primary beam at 75 kVp.)*
8. It is not recommended that pregnant student radiographers perform radiographic procedures on patients with intra-cavity or interstitial source gamma radiation.
9. The pregnant student radiographer is expected to meet all other objectives and clinical competencies of each clinical education course.

X-RAYS AND PREGNANCY:

RADIOBIOLOGIC CONSIDERATIONS

Two situations in diagnostic radiology require particular care and action. Both are associated with pregnancy. Their importance is obvious from both a physical and an emotional standpoint. The severity of the potential response to radiation exposure in- utero is both time-related and intensity related. Unquestionably the most sensitive period to radiation exposure in our lives occurs before birth. Furthermore, the fetus is more sensitive early in pregnancy than late in pregnancy. As a general rule, the higher the radiation dose, the more severe will be the radiation response.

The time from approximately the second week to the eighth week of pregnancy is called the period of major organogenesis. During this time the major organ systems of the body are developing. If the radiation dose is sufficient, congenital abnormalities are associated with skeletal deformities. Later in this period neurologic deficiencies are more likely to occur.

During the second and third trimesters of pregnancy, the responses previously noted are unlikely. Results of numerous investigations strongly suggest that if a response occurs following irradiation during the latter two trimesters, the only one possible would be the appearance during childhood of malignant disease: leukemia or cancer. Malignant disease induction in childhood is also a possible response to irradiation during the first trimester.

THE PREGNANT STUDENT

When a Radiologic Technology student becomes pregnant, she may choose to notify the program faculty. If the student chooses to voluntarily inform officials of her pregnancy it must be in writing. In the absence of this voluntary, written disclosure, a student cannot be considered pregnant. Upon notification, the faculty should then review her previous radiation exposure history, since this will aid in deciding what protective actions are necessary. The maximum permissible dose for the fetus is 500 millirem (5 milliSievert) for the period of pregnancy, a dose level that most technologists will not reach.

It is reasonable to provide the pregnant Radiologic Technology student with a second monitoring device to be positioned under the protective apron at waist level. The exposure reported on the second monitor will be maintained on a separate record and identified as exposure to the fetus. When pregnancy is reported, regardless of the nature of the x-ray facilities the program faculty should review acceptable practices of radiation protection: minimize time, maximize distance, and use available shielding. Additional or thicker lead aprons are unnecessary. The student may un-declare her pregnancy at any time in writing.

COUNSELING DURING PREGNANCY

When the student discloses her state of pregnancy, the program faculty should counsel the student, including a review of her radiation exposure history and any future restrictions to her schedule that are appropriate.

This review of radiation exposure is the appropriate time to emphasize that the MPD during pregnancy is 500 millirem (5 milliSievert). Furthermore, it should be shown that this MPD refers to the fetus and not to the student herself. This level of 500 millirem (5 milliSievert) to the fetus during gestation is considered the radiation exposure level of negligible risk. The student should be aware that an alteration of her work schedule is not essential.

Finally, the pregnant student, providing notification of the pregnancy will be required to read and sign a form, attesting to the fact that she has been given proper attention and that she understands the level of risk associated with her education.

Communicable Diseases and Exposure to Blood and Body Fluids

Students should be aware that they may be exposed to blood and body fluids in the laboratory setting during their classes and in the clinical education setting while participating in practicum experiences. Handling specimens in a manner other than those taught by CTU faculty and/or the clinical education site may result in an exposure that could create a risk of injury, illness, and possibly death.

A student with any infectious process must contact the Clinical Instructor if in the clinical education setting. Students with an infectious process that may affect other students should also notify the Program Chair if the student is attending on-campus classes

In the event of an exposure to a communicable disease, the student must immediately contact the clinical instructor at the clinical education site. The CTU Academic Clinical Coordinator will advise the student of the proper steps to take if requiring medical attention. The student should take the initiative to read all policies at the clinical site that govern safety and protection of patient and personnel.

Any student with any infectious process listed below, must contact the clinical instructor before reporting to the clinical education site:

1. Fever of 101 or greater;
2. Sore throat associated with fever of 101 or above and swollen lymph nodes;
3. Flu-like symptoms (respiratory);
4. Productive cough with fever or congestion in lungs;
5. GI flu (diarrhea, nausea, and vomiting);
6. Draining of open sores, boils, and burns;
7. Conjunctivitis (pink eye);
8. Diagnosed strep throat;
9. Scabies;
10. Herpes labialis (cold sores).

Before the student returns to the clinical education site, the following must occur:

1. The student's temperature must be below 99 degrees;
2. If a physician orders a throat culture, the student must wear a mask while culture results are pending;
3. The student must be able to function at the externship site;
4. If phlegm is colored, the student should not be in clinic. If phlegm is clear, exhibit good hand washing techniques and wear mask in patient areas.
5. If diarrhea is severe, student in patient care areas must remain home until diarrhea subsides for 12 hours;
6. Before working with patients, the student must check with clinical coordinator;
7. Culture confirmed--may return after being on antibiotics for 24 hours;
8. Shampoo or bathe with RID for lice infestations;
9. The student must see a physician in the event of a serious health problem;
10. May not participate in direct patient care until lesions are dried and crusted.

HIV policy

To prevent transmission of HIV to health care workers in the workplace, CDC offers the following recommendations.

Prevention Strategies

Health care workers should assume that the blood and other body fluids from all patients are potentially infectious. They should therefore follow infection control precautions at all times.

These precautions include:

- routinely using barriers (such as gloves and/or goggles) when anticipating contact with blood or body fluids,
- immediately washing hands and other skin surfaces after contact with blood or body fluids, and

- carefully handling and disposing of sharp instruments during and after use.

Occupational HIV Transmission and Prevention among Health Care Workers can be viewed at:
<http://www.thebody.com/content/whatis/art60783.html>

Background Check Policy

Criminal background checks will be conducted by the University prior to the start of the clinical externship. Students may not be allowed to participate in clinical experiences if they have a pending or prior conviction. If the student is unable to complete clinical experiences as a result of findings on the criminal background check, the student will be dismissed from the program. Certain criminal convictions may prevent the health science graduate from taking national certification or licensure exams. Healthcare facilities may not hire students or graduates who have a prior criminal conviction. Students with prior convictions should contact licensure/certification agencies to determine eligibility for testing.

Drug Screens

Students may be required to provide the results of a drug screen prior to starting clinical experiences. A medical condition or past drug use may prevent a student from obtaining employment or placement at externship/internship sites. If the student is unable to complete clinical experiences as a result of findings on the drug screen, the student will be dismissed from the program. Students may be able to reapply to the program after one year and will be required to meet the Admission Requirements at the time of their re-application. In addition, positive drug tests may prevent the Health Science graduate from taking certain national certification or licensing exams. Finally, healthcare facilities may not hire students or graduates who have a record of illegal drug use, abnormal drug tests, or a felony conviction

Chapter 5

Clinical Education Policies and Procedures

General Overview

The responsibility of the Radiographer has grown in complexity with the development of more sophisticated procedures and equipment in the medical imaging sciences. It is essential that Colorado Technical University and the clinical affiliates work together to provide the best educational experiences to all students. During their clinical experience, students must have the opportunity to perform all types of routine radiographic procedures. Only in this manner will they be prepared for entry into the profession.

Each student is responsible for his/her performance. However, there must be a competency-based curriculum, both academic and clinical. Efforts have been made to develop a clinical evaluation system whereby students may progress through clinical education with their strengths and deficiencies identified. The clinical evaluation will help each student address deficiencies and maximize learning outcomes.

Competency based evaluation is a means of checking the progression rate of students during their education by determining whether or not they are able to meet specified objectives thus demonstrating proficiency. Students' knowledge and skills are directly evaluated in the classroom and indirectly evaluated throughout their educational experience. The applications of skills are evaluated in the energized laboratory at Colorado Technical University and during the clinical experience at each of the clinical affiliates. In order to properly evaluate the student's application skills, it is essential to determine the level of performance ability. Only through the use of a competency based evaluation system can the Colorado Technical University Radiologic Technology staff and faculty determine the proficiency level a student has achieved.

It is very important that knowledge and skills be reinforced and evaluated in the clinical setting to maximize the students' clinical effectiveness. It is the role of the clinical affiliates to provide clinical experiences designed to bridge the gap between theory and application. This can only be accomplished through quality supervision of clinical experiences in each medical facility.

The clinical portion of the Radiologic Technology Program at Colorado Technical University is an integral part of the total curriculum. To be effective, all persons

involved with the program must thoroughly understand the structure and function of the clinical evaluation system for the total education experience of a student.

The competency-based program at Colorado Technical University follows the guidelines as recommended by the American Registry of Radiologic Technology (ARRT). This program also encourages additional expectations during the classroom/lab studies of Radiologic Procedure Study.

Accident or injury:

In the event an accident or injury occurs while on the premises of an affiliating clinical site; the site shall provide on-site emergency treatment at the expense of the student and/or faculty member, unless otherwise noted.

Accident Report Forms should be completed and submitted to the Radiologic Technology Program's Academic Clinical Coordinator as soon as possible following an incident. A clinical education center's request to remove a student mandates a faculty review of that student's total performance. If such review is not favorable for the student, the Program Director shall recommend to the Academic Director of Education that the student be dismissed from the Program.

Transportation:

It is the student's responsibility to arrange for transportation that will permit prompt and dependable reporting for each clinical education assignment. **The student may be required to travel distances in excess of two (2) hours for their clinical rotation.**

Clinical Eligibility

Students must have successfully completed BIO141, BIO142, RADG103, RADG121, RADG 122, and RADG101 prior to assignment in a clinical setting. Radiologic Technology students must be certified in cardiopulmonary resuscitation (CPR). Students will also need to be compliant in HIPAA, Venipuncture, Asepsis/Sterile procedures, and meet OSHA requirements prior to assignment at a clinical setting.

Health standards

Administrative personnel at clinical agencies and in all the health science programs believe that health science students and the public with whom they come in contact must be protected against communicable diseases and unsafe practice. Each health science student must assume responsibility for meeting the health and safety requirements.

- 1.) Students must submit a completed immunization and vaccination policy form.
- 2.) An annual TB skin test must be documented. In the event the TB (Mantoux) test is positive, additional testing may be required (such as a chest x-ray). A negative chest x-ray (or the following of the specific clinical agency's protocol) must be documented.
- 3.) Healthcare facilities may require that health science students have a drug screening test completed prior to attending clinical experiences. In addition, students may not be allowed to participate in clinical experiences if they test positive for illegal drugs or prescription drugs without physician authorization. Moreover, positive drug tests may prevent the health science graduate from taking certain national certification or licensing exams. Finally, healthcare facilities may not hire students or graduates who have a record of illegal drug use or abnormal drug tests.
- 4.) Students are required to have a complete physical exam prior to participation in clinical/externship experiences.

Clinical Education Affiliations

The Clinical Coordinator assigns / places Radiologic Technology students at affiliated Hospitals, Clinics and Imaging Centers. These assignments provide students the volume and variety of clinical experiences required to successfully progress through the program. Rotations from site to site are mandated at some of our affiliations while some affiliates prefer the student maintain at the same site for the duration of their clinical experience.

The usual reporting times for clinical education assignments vary, but will normally be between 7:00 am and 7:00 pm. The student may obtain pertinent

information concerning reporting times for each clinical education center from the designated Clinical Instructor at that center.

The days of clinical education assignment are established by the Program. The course sequence on pages 23 and 24 of the Radiologic Technology Student Handbook indicates the clinical schedule. In order to enhance clinical education and improve technical knowledge, additional on campus fortification is a possibility.

Paid employment of a student in a clinical radiography department will not be used in lieu of the time assigned to the structured clinical experience. Employment, volunteer services, or any other activities cannot interfere with clinical rotations or used in lieu of clinical rotations. Radiologic Technology students will not be allowed to use employment, volunteer services or any other activities as clinical experience or for requirements mandated by the ARRT.

Recognized Clinical Education Settings

Colorado Technical University's Radiologic Technology program utilizes clinical education settings that have been approved by JRCERT. A complete listing of these approved locations is available on the JRCERT database listed at www.jrcert.org.

Student Expectations

It is the expectation of the Clinical Coordinator that the students assigned to clinical rotation maintain self-responsibility. It is the responsibility of the student to find transportation to the site, arrive promptly each assigned day, and maintain his or her own record keeping. The student is expected to become a supervised member of the clinical health care team **in all aspects** of the department, not only the ability to perform imaging procedures.

The student must contact **BOTH** the **CLINICAL SITE** and the **RADIOLOGIC TECHNOLOGY CLINICAL COORDINATOR** of any delays in arrival or absences. Failure to follow this policy will be considered a **NO-CALL, NO-SHOW**. The result will be dismissal from the Radiologic Technology program.

Each student must complete time sheets daily. Time sheets are completed online via the Trajecsys web site as instructed during clinical orientation. Not completing daily clock-in and clock-out procedures, at the clinical facility, will be considered an absence from the clinical site and/or falsification of records. This

may result in earning a failing grade for the clinical assignment and/or dismissal from the Radiologic Technology program.

At the beginning of each calendar year, every Radiologic Technology student is given clinical due dates for all clinical information and observed holidays for the calendar year. All these dates are relayed via a student academic calendar.

The student is not to wait until the last week to try and fulfill basic clinical obligations.

The Clinical Instructors and other members of the Radiologic Team will share their work experience, radiologic ability/experiences and multiple facets of a radiological division with the student. It is their instruction and input that offers a full health care environment and completion of a Radiologic Technology Program.

Visits by the Clinical Coordinator should not only include the opportunity to work with the student, but also address both the student and Clinical Instructor regarding each student's progress.

Clinical Education Activities

The coordination of the procedures course content and corresponding clinical education component are to be closely aligned at all times. The educational objectives are the prime factor for scheduling clinical assignments. An example emphasizing this relationship would be when fluoroscopic examinations are covered in the procedure courses, all students should be assigned locations and clinical hours, which maximize the opportunity for students to observe and perform routine fluoroscopic procedures.

If experience with trauma procedures, pediatric, or other examinations cannot be obtained during normal business hours, other days or hours can be assigned on a limited basis. Educationally sound reasoning and strict adherence to the program objectives should always dictate clinical assignments to weekend or evening rotations.

Seniors who have achieved all other clinical objectives and with appropriate student supervision may rotate evening shifts with the Clinical Coordinator's approval. Evening rotation will expand the overall experience of the student frequently offering a different radiological atmosphere.

Students should also keep in mind that CTU has an obligation to provide a safe and healthy environment for each Radiologic Technology student. Darkness, weather conditions, clinical site locations, next day class requirements, class loads, and schedules are all elements of providing safe and beneficial learning activities for the Radiologic Technology student. In addition, **JRCERT also**

mandates that the student not be assigned to more than 40 hours per week, explicit with its requirement that all medical imaging procedures are performed under the direct supervision of a qualified practitioner until a student achieves competency.

A complete and thorough analysis of the student's educational objectives, competency level, and safety issues, with the clinical site opportunities and characteristics, should be made by the clinical coordinator in cooperation with the clinical affiliation's personnel and student when scheduling clinical assignments.

Advanced Modalities Mammography Rotation

No student is required to complete a mammography observation as it is an elective observation only. If a student wishes to rotate through a mammography department, CTU has adequate clinical affiliates that are willing to allow either a male or female observer to rotate through the mammography department.

Student Supervision Policy

CTU has adopted the policy for student supervision as set forth by JRCERT. Each student will undergo *direct supervision* until such time as the student achieves competency for a given procedure. The definition of direct supervision will be as follows: (www.jrcert.org)

1. An ARRT Registered Technologist in good standing with the ARRT reviews the procedure in relation to the student's achievement;
2. An ARRT Registered Technologist in good standing with the ARRT evaluates the condition of the patient in relation to the student's knowledge;
3. An ARRT Registered Technologist in good standing with the ARRT is present during the conduct of the procedure;
4. An ARRT Registered Technologist in good standing with the ARRT reviews and approves the procedure;
5. An ARRT Registered Technologist in good standing with the ARRT is present during student performance of any repeat of any unsatisfactory radiograph.
6. An ARRT Registered Technologist in good standing with the ARRT must present for all portable radiographic studies including c-arm and surgery procedures

7. An ARRT Registered Technologist in good standing with the ARRT must be present while performing all repeated examinations.

Indirect supervision will be defined as supervision that is provided by an ARRT Registered Technologist in good standing with the ARRT and remains **immediately available** to assist the student regardless of level of student achievement. Immediately available is interpreted as the presence of a qualified radiographer adjacent to the room or location where a radiographic procedure is being performed. This availability applies to all areas where radiation equipment is in use. This does NOT include the use of portable equipment.

Special Supervision Situations

At any point within their clinical education training, no student should be performing a repeat radiograph without the direct supervision of a registered technologist.

It is the policy of the Colorado Technical University Radiologic Technology Program and the Clinical Education Settings to provide shadowing and direct supervision, in the areas of surgery, mobile/bedside, and portable radiography.

Students should also be under direct supervision when performing examinations in special/high risk areas within the hospital/clinic, such as ER, ICU, PACU, CCU, NICU, etc.

In accordance with JRCERT Standard 4, Objective 4.6: Assures that students are directly supervised by a qualified radiographer when repeating unsatisfactory images.

In the instance of a repeat radiograph by a student, the student **MUST** designate on his/her daily report of clinical experience (daily log sheet) that a repeat radiograph was performed. Indicating the term "Repeat" in the examination/procedure section on the Trajecsys web site will provide adequate documentation. Also, the student must indicate that the examination was assisted in the designated column (O/A/I observe, assist, or independent).

The student will also complete a Radiographic Repeat Analysis Form for each examination and/or view repeated. Finally, the clinical instructor, or other ARRT registered technologist assisting the student with the repeat examination, must verify the repeat entry on the web site as an approval of the examination.

If a student fails to comply with the JRCERT supervision policies as stated above, the student will be in violation of scope of practice, which will result in program dismissal.

Falsification of Records

Falsification of any clinical records will lead to immediate dismissal from the program.

Venipuncture

Students within the Colorado Technical University Radiologic Technology Program are provided with venipuncture education. The required competency will be simulated within a laboratory setting. Students in the program are prohibited from performing venipuncture procedures until proven competent and then only at the discretion of their clinical education setting.

Students are prohibited from administering any intravenous contrast media to a patient. Students need to be aware of and follow the procedures designated by each clinical facility.

Radiation Protection

A student is required to exercise sound radiation protection practices at all times. At no time may a student participate in a procedure utilizing unsafe protection practices. The **THREE CARDINAL RULES** (Time, Distance, and Shielding) and **A.L.A.R.A.** (As Low As Reasonably Achievable) principles must always be followed. Radiation protection of the patient is a responsibility of the student technologist as described in the ARRT Code of Ethics.

A student **must always** wear radiation dosimeters in the clinical education center and in laboratory classes. A student may secure currently dated dosimeters from the Academic Clinical Coordinator's office during the week of the 14th day of the month. Currently dated monitors **must** be picked up by the 20th day of each month. Students turning in their radiation badges after the 20th day will be assessed a \$4.00 late processing fee. These, and all outstanding fees, must be paid in order to graduate and receive a diploma.

Students must:

- Wear currently dated radiation monitors in clinical education center assignment(s) and in laboratory classes. No student will be allowed in a clinical education center or laboratory class without properly dated, appropriated displayed and properly worn radiation dosimeter.

- Failure to have current dated dosimeters upon reporting from a clinical education assignment will result in the student being asked to leave the assignment until the appropriate dosimeters are secured. All time missed from clinical education for this reason must be made up.
- Report any accident to or loss of radiation dosimeters to the Academic Clinical Coordinator or Program Chair immediately.
- A follow-up written report must be submitted within twenty-four (24) hours if the initial report is given orally.
- Known accidental exposures are to be reported to the Academic Clinical Coordinator or Program Chair immediately.
- **ANY** overexposure will be investigated thoroughly. If the overexposure is accidental, the student will be counseled on the proper wear and safekeeping of the dosimeter. If the overexposure is found to be intentional, the student will immediately be dismissed from the Radiologic Technology program.
- Each student should check and initial his/her radiation dosage report each month.

All dosimetry reports will be available in the Clinical Coordinator's office. In accordance with radiation protection guidelines, a student's monthly radiation dosage report should not exceed:

60 mr/month – deep, whole-body radiation – film badge
195 mr/month – hand and forearm radiation – ring badge

It must not exceed the recommended dosages level for occupationally exposed persons as established by the State and Federal Agencies for radiological health. Values are:

5 rems/year or 1250-mr/calendar quarter – whole body (deep)
75 rems/year or 18.5 rems/ calendar quarter – hands/forearms

Reference: Landauer, Inc. (2007). *Radiation dosimetry report*. Glenwood, IL: Landauer, Inc.

Infection Control Policy

The purpose of the Infection Control Policy is to ensure the safety of patients, families, health care workers, and students from infectious diseases.

Infection control is the use of techniques and precautionary methods in order to prevent the transmission of contagion, nosocomial infections, and AIDS. The following are general infection control (Standard Precautions) guidelines.

1. Remove jewelry, such as rings with stones and nail polish. They harbor microorganisms that are difficult to remove. (The wear of a wedding band is acceptable provided that the ring(s) are cleaned often.)
2. Always wear freshly laundered clothing. If clothing becomes soiled with blood/body fluids during the shift, the student should change to clean clothing as soon as possible to avoid any potential infectious process to the student or another patient.
3. Practice good hand washing techniques. Always wash hands before **and** after any patient contact. This includes cleaning of equipment after contact with a patient.
4. Students should use the following precautions when so prescribed:
 - a. Wear gloves
 - b. Wear protective eye wear (goggles)
 - c. Wear appropriate gowns
 - d. Dispose of all contaminated wastes into its proper disposal site(s) or container(s). Check your particular clinical site procedures.
 - e. Clean all surfaces with an approved disinfectant or germicide
 - f. Wash hands before and after contact with patients
5. Familiarize yourself with the Infection Control Policy at your particular clinical site.

Student Employment

The following steps must be strictly followed for **ALL** students that are employed or seeking employment while a student is in the Radiologic Technology Program at CTU.

1. Due to the hours required for study, students are encouraged to refrain from holding outside jobs, but are not prohibited from doing so. Academic or clinical responsibilities within the Radiologic Technology program take precedence over work, and no special consideration will be given to students who work. No uniform combination identifying an individual as a CTU student may be worn in a working capacity outside of normal training. Likewise, personal film-monitoring badge may **NOT** be worn while working in capacities outside the training facility. The employer **MUST** provide a personal film monitoring badge for employment.
2. Students employed by the training facilities must make available for review, if requested, their employment time card, which will verify they are **NOT** receiving wages for clinical training hours.
3. Students may **NOT** apply any paid work experiences to the required clinical competencies or to the record of procedures performed.
4. Students must keep in mind the periodic changes in class schedules and clinical rotation assignments when accepting employment opportunities. (Class schedules should take priority over employment schedules.)
5. Violation of any of the above employment policies will be considered as an attempt to fraudulently report information and will result in the student being recommended for immediate dismissal from the Radiologic Technology program.

Clinical Attendance

The Radiologic Technology program faculty understands that occurrences may arise that will necessitate a student absence from the clinical education setting. Radiology students may only have two (2) absences in clinics. On the third (3) absence, the student will be withdrawn from the clinics and a grade of 'W' will be assigned for that course. Documentation provided for missed clinical days will be evaluated and dealt with on a case by case basis. **All clinical days that are**

missed must be made up prior to the end of the term unless approval is obtained from the clinical coordinator. If a student is unable to complete the required hours by the end of the term, the student must petition for an incomplete for the course. Students must then submit a clinical make-up contract, signed by both the clinical coordinator and clinical instructor, outlining the days and times that the time will be made-up. If absences are not made up, or the student does not comply with the approved make-up contract, the student will not be in compliance with the course requirements and will receive a failing grade for that course. The result will require the student to repeat the course in its entirety even if the student is in the final week of the term.

The specific policy for clinical attendance is described below.

1. Students are responsible for attendance records at all clinical sites. Students **MUST** contact the **clinical site AND the clinical coordinator** in all cases of absence or anticipated tardiness. The student must notify the clinical site at least one hour prior to start time, if possible. Students must leave a message for the clinical coordinator including the name of the person spoken with at the facility. **Failure to contact BOTH the clinical site and clinical coordinator, will be considered a “NO-CALL/NO-SHOW and will result in dismissal from the Radiologic Technology program upon the first (1st) offense.** No-call / no-show is a serious infraction which is **NOT** acceptable for healthcare professionals.
2. Students are expected to arrive **15 minutes** prior to the scheduled start time for each clinical education shift. Each student will be held accountable for each clinical training site and its published tardiness policy. The CTU Radiologic Technology Program defines tardy as 5 minutes past the scheduled start time. Failure to arrive promptly will be reflected in the clinical clock-in time. Unless the clinical education center tardy policy is more stringent, students will be held to the CTU Radiologic Technology program definition of tardiness. **Every two (2) tardies will equate to one (1) absence, each absence equals 8 hours of clinical time that is required to be made-up.**
3. The loss of clinical experience and opportunities cannot be duplicated with make-up of clinical days at the clinical education setting. Make-up is contingent upon several factors, including the approval of the CTU Clinical Coordinator as well as the Clinical Instructor at the site. A make-up contract must be completed by all parties prior to the approved make-up day. Exceptions are handled on a case-by-case basis. When documentation is provided. No make-up time is counted until a make-up contract has been submitted to the clinical coordinator.

Chapter 6

Clinical Education Setting Student Evaluation

Introduction

Each student is responsible for his/her performance. However, there must be a competency-based curriculum, both academic and clinical. Efforts have been made to develop a clinical evaluation system whereby students may progress through clinical education with their strengths and deficiencies being identified. The clinical evaluation will help each student address the deficiencies to optimize their completion of the program.

Competency based evaluation is a means of checking the progression rate of students during their education by determining whether or not they are able to meet specified objectives thus demonstrating proficiency. Students' knowledge and skills are directly evaluated in the classroom and indirectly evaluated throughout their educational experience. The application of one's skills is evaluated in the energized laboratory at Colorado Technical University and during their clinical experience at the clinical education settings to which the student is assigned. In order to properly evaluate the student's application skills, it is essential to determine the level of performance ability. Only through the use of a competency based evaluation system can the CTU faculty determine the proficiency level a student has achieved.

The clinical portion of the Radiologic Technology Program at Colorado Technical University is an integral part of the total curriculum. To be effective, all persons involved with the program must thoroughly understand the structure and function of the clinical evaluation system for the total education experience of each student.

The competency based program at Colorado Technical University follows the guidelines as recommended by the American Registry of Radiologic Technologists (ARRT) in conjunction with the American Society of Radiologic Technologists (ASRT).

Clinical Performance Objectives

All clinical performance objectives are listed in the Master Course Objectives located in the Program Director's office. Each clinical syllabus will also include objectives specific for that clinical rotation.

Clinical Education Setting Method of Evaluation

All student clinical performance will be evaluated based upon the following criteria:

<u>For Clinic 1 & 2</u>	<u>For Clinic 3 & 4</u>
5% Daily Patient Logs	5% Daily Patient Logs
5% Repeat Analysis	5% Repeat Analysis
10% Film Critique	10% Film Critique
10% Timesheets	10% Timesheets
30% Two (2) Affective Evaluations	10% Film Rechecks
40% Competency Exams with Case Studies and Participation	30% Two (2) Affective Evaluations
	30% Competency Exams with Case Studies and Participation

The Advanced Modality Rotation, Clinic 5, is evaluated differently than that listed above. Please refer to Radiographic Clinical Education V syllabus found in the Program Director's office for the method of evaluation.

Clinical Competency Evaluation System

Colorado Technical University, in conjunction with Trajecsys Corporation, provide each Radiologic Technology program student an evaluation system allowing instant access to time record summaries, student evaluation results, collated information on completed competencies and clinical education sites visited. Access to online documents and information provided by each educational institution is also available. Students can also view outstanding assignments and print competency items for any required skill. The automated email system will remind students of past-due evaluations by sending notification directly to the student e-mail address provided by CTU. Students are even able to compare their own progress in achieving competencies with those of the class.

<http://www.trajecsys.com/>.

Access to Trajecsyst Corporation is obtained by providing a valid e-mail address, user name, password, and security questions directly to Trajecsyst Corporation. Each student corresponds directly with a representative of Trajecsyst for personal data changes, obtaining or changing a password, etc. The Trajecsyst Corporation website will be found at www.trajecsyst.com. The homepage will be displayed and a clickable box is provided for the student to register as well as for subsequent sign-ins on the site. (Figure 6.1)



Figure 6.1

Contingency Operations:

In the extremely unlikely event of an internet outage, power outage, or other natural disaster, paper copies of the entire clinical competency evaluation system are located in the Radiologic Technology Program Director's office. Each student will be provided with paper copies of the needed forms until such time that internet access is restored, power is restored, and/or the other natural disaster has been resolved.

Colorado Technical University

Allied Health Program Invasive Procedures Consent Form

I, _____, understand that students in the Allied Health programs at
Student Name

Colorado Technical University (CTU), students/faculty practice specific invasive procedures on consenting volunteers. The invasive procedures that may be practiced are limited to intramuscular, subcutaneous, and intradermal injections of normal saline, venipuncture, and fingersticks. I understand that a clinical faculty member must be in attendance during the practice session in which injections, venipuncture, or fingersticks are practiced.

I understand that receiving injections, venipuncture or fingersticks administered by students is strictly voluntary. I understand that the risks of these procedures may include infection, feeling light-headed, bruising, or other damage to tissue or nerves. I hereby release, and will not hold CTU, its parent corporation, agents, directors, officers, owners, executives, faculty, employees, nor my classmates liable for any injury or complication that may result from any and all activity occurring in the practice sessions.

I **give my consent** for students to practice, or faculty to demonstrate, injections of normal saline, venipunctures, and/or fingersticks on me.

Signature

Date

Reviewed by: _____
Program Chair Signature

Date

**ACKNOWLEDGEMENT OF
RADIOLOGIC TECHNOLOGY PROGRAM HANDBOOK
COLORADO TECHNICAL UNIVERSITY**

I have received and thoroughly read the Colorado Technical University Radiologic Technology Program Student Handbook. I understand the policies and regulations contained therein and the responsibilities to be undertaken. While I am a student in the program, the policies and procedures set forth herein may be changed from time to time as the radiography program officials determine appropriate. Addenda will be provided as changes are approved, and each student should add addenda to the handbook. I understand that failure to comply with the established policies may result in suspension or dismissal from the Radiography Program.

If, at any time, policies and procedures differ between the CTU Radiologic Technology Program Student Handbook, and the CTU Catalogs, the Radiologic Technology Student Handbook will be the binding governing document for students within the Radiologic Technology Program.

I agree to comply with these policies.

Student Printed Name (Print legibly)

Student Signature

Date

Revised: January, 2009; April 2010, July 2010, December 2010, March 2011, September 2011