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INTRODUCTION

Welcome to the Division of Radiation Science Technology Education (RSTE) at the University of Nebraska Medical Center. The policies and procedures contained in this manual will help guide you in your tenure in each of the educational programs. It is your responsibility to read and understand each policy. If you have questions, please contact your respective Program Director/Coordinator as soon as possible. Policies within this manual apply to all RSTE students except where noted in parentheses.

You are now a member of an organization which is striving to provide the best possible health care for its patients, education for students, and employment for its staff. The RSTE faculty and staff strive to provide a valuable and rewarding educational experience in the six professional disciplines.

The effectiveness of the RSTE Division depends on the cooperation and support of the staff. Your contribution as a student is considered no less important than that of the other members of The Nebraska Medical Center/UNMC Radiology/Radiation Oncology Department team. The success of Radiation Science Technology programs is the result of the skill and commitment to patient care and education that exists among the faculty and staff of the Radiology and Radiation Oncology Departments.

The information in this handbook and the SAHP Policies for Students is intended to assist you in adjusting to the UNMC Radiation Sciences environment and in becoming a valuable member of a healthcare team dedicated to providing quality diagnosis and treatment for all its patients.

The following policies, procedures and guidelines are subject to change at any time.
STUDENT RESPONSIBILITY STATEMENT

As a student in the Division of Radiation Science Technology Education Program, it is your responsibility to read this Policies and Procedures Manual. You are expected to abide by the regulations contained in it.

Your signature below confirms you have read and understand the Radiation Science Technology Education policies and procedures and that you agree to the conditions stated.

_________________________    ______________________
Student Signature              Date

_________________________    ______________________
Program Director               Date
RSTE DIVISION PROGRAM FACULTY, 2006-2007

Craig W. Walker, M.D...............................................Medical Director
UNMC Radiology Professor and Chair
James B. Temme, MPA, R.T.(R)(QM).........................Associate Director/ Rural Clinical Coordinator
Tanya Custer, B.S., R.T.(R)(T).................................RSTE Instructor
Virgie Powers..........................................................Staff Assistant

Radiography Program

Connie L. Mitchell, M.A., R.T.(R)(CT) ......................Program Director
Timothy Moore, M.D...............................................Medical Advisor
Tammy Jones, MPA., R.T.(R).................................Clinical Education Coordinator
Tonya Banzhaf, R.T.(R)(M).................................Clinical Instructor, St. Francis Med Cntr
Brad Morrow, A.S., R.T. (R).................................Lead Technologist/Diagnostic The NE Med Cntr

Nuclear Medicine Technology Program

Marcia Hess Smith, BS, CNMT .................................Program Director
Jordon Hankins, M.D...........................................Medical Advisor
Stephanie Mullanix, BS, CNMT, RT(N).....................Clinical Coordinator, The NE Med Center
Tracy Wagaman, R.T.(R), CNMT.................................Clinical Supervisor, Creighton University
Geri Piotrowski, R.T.(R), CNMT............................Clinical Supervisor, Alegent Immanuel
Mike Jorgensen, PharmD............................................Manager, Cardinal Health Nuclear Pharmacy
Angie Foster, BS, CNMT...........................................Clinical Supervisor, Bergman Cardiology
Tom Geran, R.T.(R)(N)....................................................Clinical Supervisor, VA Med Center

POST PRIMARY IMAGING PROGRAMS

Diagnostic Medical Sonography Program

Kimberly Michael, M.A., R.T.(R), RDMS, RVT......Program Director
Joseph Anderson, M.D........................................Medical Advisor and Instructor
Jill O’Neal, B.S., R.T.(R), RDMS, ............................Clinical Coordinator/Staff Sonographer
Sherri Reyes, B.S., R.T.(R), RDMS, RVT ...............Lead Sonographer

Radiation Therapy Program

Lisa Bartenhagen, M.S., R.T.(R)(T) .........................Program Director
Charles A. Enke, M.D................................................Medical Advisor,
UNMC/ The NE Med Center Chair
Jana Koth, B.S., R.T.(R)(T).................................Clinical Coordinator, The NE Med Center
Patricia Holder, B.S., R.T.(R)(T).................................Clinical Supervisor, Alegent Immanuel
Gayleen Babcock, B.S., R.T.(R)(T),.........................Clinical Supervisor, Alegent Bergan
Gretchen Perry, R.T.(R)(T).................................Clinical Supervisor, Creighton-St. Joseph
Lisa Lohr, M.A., R.T.(R)(T).................................Clinical Supervisor, Methodist
POST PRIMARY IMAGING PROGRAMS (cont’d)

**Computed Tomography/Magnetic Resonance Imaging**

Adam Stevens, B.S., R.T.(R)(CT)(MR) ....................Program Coordinator
Jean A. Saigh, M.D....................................................Medical Advisor and Instructor
Harley Dehart, A.S., R.T.(R)(CT)(MR).....................Instructor, Nebraska Health Imaging
Dan Gilbert, B.S., R.T.(R)(CV)(CT)(MR)(QM) .......Instructor/Radiography Program Director
Scottsbluff Regional West Med Center
Lynnette Ochsner, B.S., R.T.(R)(CT)(MR) ...............Instructor, St. Elizabeth

**Cardiovascular Interventional Technology**

Connie L. Mitchell, M.A., R.T.(R)(CT) ....................Program Director
James Griess, B.S., R.T.(CVIT).................................Program Coordinator
Timothy E. Moore, M.D. ...........................................Medical Advisor

**RT to BSRT Degree Completion Program**

TBA............................................................................Distance Education Coordinator, SAHP
Maggie Wittstruck, MPH...........................................DE Administrative Coordinator, SAHP
UNMC DIVISION OF RADIATION SCIENCES TECHNOLOGY EDUCATION

INSTITUTIONAL MISSION

The Mission of the University of Nebraska Medical Center is to improve the health of Nebraska through:
- Premier educational programs
- Innovative research
- The highest quality patient care
- Outreach to underserved populations

SCHOOL OF ALLIED HEALTH PROFESSIONS VISION

The School of Allied Health Professions will be a center of excellence in:
- Preparing quality allied health practitioners through innovative academic and clinical education.
- Promoting life-long learning for faculty and students.
- Contributing to the knowledge base of allied health professions.
- Integrating education with clinical service to meet the health care needs of citizens of the State of Nebraska.

RSTE DIVISION MISSION AND GOALS

Mission: The Division of Radiation Science Technology Education provides a premier educational environment that prepares competent radiation science professionals who demonstrate the highest quality of patient care and service.

Goals: To uphold our Mission, the RSTE Division has the following goals:

1. To enroll qualified individuals who successfully complete our programs, pass certification examinations, secure employment in their profession, and/or seek post-graduate endeavors.

2. To graduate students who demonstrate clinical competence and performance required for entry-level practitioners.

3. To graduate students who think critically, problem-solve, communicate effectively, and engage in professional development and life-long learning.

4. To ensure the satisfaction of graduates, employers, and communities of interest by providing quality educational programs.
The Radiography Program, Division of Radiation Science Technology Education at the University of Nebraska Medical Center, seeks to provide classes and learning experiences which promote the student’s ability to provide appropriate diagnostic medical imaging and health care services. Graduate radiographers will be highly skilled professionals qualified by education to perform imaging examinations and assume accompanying responsibilities at the request of physicians qualified to prescribe and/or perform radiologic procedures. Upon completion of the program, the graduate radiographer should be able to:

Skills Description
1. Apply knowledge of anatomy, physiology, positioning, and radiographic techniques to accurately demonstrate anatomical structures on a radiograph or other imaging receptor.
2. Determine exposure factors to achieve optimum radiographic techniques with minimum radiation exposure to the patient.
3. Evaluate radiographic images for appropriate position and image quality.
4. Apply principles of radiation protection to the patient, self, and others.
5. Provide patient care and comfort.
6. Respond to emergency patient conditions and initiate lifesaving first aid and basic life support procedures.
7. Detect equipment malfunctions, report same to the proper authority, and know the safe limits of equipment operations.
8. Exercise independent judgment and discretion in the technical performance of medical imaging procedures.
9. Participate in radiologic quality management programs.

Code of Ethics:

Preamble
This Code of Ethics is to serve as a guide by which Radiologic Technologists may evaluate their professional conduct as it relates to patients, colleagues, and other members of the allied health professions and health care consumers.

The Code of Ethics is not law, but it is intended to assist Radiologic Technologists in maintaining a high level of ethical conduct.

Therefore, in the practice of the profession, we the members of the American Society of Radiologic Technologists, accept the following principles.
**Code of Ethics**

Principle 1:  
Radiologic Technologists shall conduct themselves in a manner compatible with the dignity of their profession.

Principle 2:  
Radiologic Technologists shall provide services with consideration of human dignity and the uniqueness of the patient, unrestricted by consideration of age, sex, race, creed, social or economic status, handicap, personal attributes, or the nature of the health problem.

Principle 3:  
Radiologic Technologists shall make every effort to protect all patients from unnecessary radiation.

Principle 4:  
Radiologic Technologists should exercise and accept responsibility for independent discretion and judgment in the performance of their professional services.

Principle 5:  
Radiologic Technologists shall judiciously protect the patient’s right to privacy and shall maintain all patient information in the strictest confidence.

Principle 6:  
Radiologic Technologists shall apply only methods of technology founded upon a scientific basis and not accept those methods that violate this principle.

Principle 7:  
Radiologic Technologists shall not diagnose, but in recognition of their responsibility to the patient, they shall provide the physician with all information they have relative to radiologic diagnosis or patient management.

Principle 8:  
Radiologic Technologists shall be responsible for reporting unethical conduct and illegal professional activities to the appropriate authorities.

Principle 9:  
Radiologic Technologists should continually strive to improve their knowledge and skills by participating in educational and professional activities and sharing the benefits of their attainments with their colleagues.

Principle 10:  
Radiologic Technologists should protect the public from misinformation and misrepresentation. The practice of Radiography is performed by a segment of health care professionals responsible for the administration of ionizing radiation to humans and animals for diagnostic, therapeutic or research purposes.
Professional Credentials
1. State statutes may exist which define and/or limit the scope of practice for individuals who perform radiologic procedures.
2. The initials R.T.(R)(ARRT) indicate Registered Technologist in Radiography with certification by the American Registry of Radiologic Technologists.
3. The initials R.T.(R) (CV) (ARRT) indicate Registered Technologist in Radiography and Cardiovascular-Interventional Technology with certification by the American Registry of Radiologic Technologists.
4. The initials R.T.(R)(M)(ARRT) indicate Registered Technologist in Radiography and Mammography with certification by the American Registry of Radiologic Technologists.
5. The initials R.T.(R)(CT)(ARRT) indicate Registered Technologist in Radiography and Computed Tomography with certification by the American Registry of Radiologic Technologists.
7. The initials R.T.(R)(QM)(ARRT) indicate Registered Technologist in Radiography and Quality Management with certification by the American Registry of Radiologic Technologists.
8. The initials R.T.(R)(BD)(ARRT) indicate Registered Technologist in Radiography and Bone Densitometry with certification by the American Registry of Radiologic Technologists.

Scope of Practice/Practice Standards
The practice of Radiography includes, but is not limited to, the following:
1. Procedures or examinations performed upon the order of, or for, diagnostic interpretation by a licensed practitioner.
2. Optimal patient care applying established and accepted protocols.
3. Supervision of peers and/or students where applicable.
4. Continued evaluation of responsibilities and methods with recommendation for expansion of the profession.

Three levels of practice are identified for Radiography: Comprehensive, Extended or Limited.

Comprehensive Practice
Radiography is performed on any or all body organs, systems or structures involving general radiographic procedures. Individuals demonstrate competency to meet state licensure, permit or certification requirements defined by law for whole body radiography or maintain the credential R.T. (R) ARRT, or equivalent.

Extended Practice
Radiography expertise is expanded beyond comprehensive practice. These individuals have obtained additional education and specific skills to enhance, expand and demonstrate competency. Extended practice has been identified for the following disciplines:

- Cardiovascular-Interventional Technology
- Computed Tomography
- Mammography
- Magnetic Resonance Imaging
- Quality Management
- Bone Densitometry

**Limited Practice**
Radiography is limited to specific anatomical regions by particular state statutes. Individuals demonstrating competency are recognized by license, permit or certification requirements defined by law. Limited practice may include the following services:

- chest/thorax
- genitourinary
- abdominal
- skull
- pediatric
- pelvis
- photofluorographic
- chiropractic
- extremities
- orthopaedic
- dental
- musculoskeletal

**Compendium of Learning**
The art and science of Radiography requires that the individual achieve specific knowledge and skills for a defined scope of practice.

Learning experiences, clinical practicum and curriculum requirements shall be structured for the health care professional to successfully demonstrate the level of competency necessary for comprehensive, extended or limited practice in the following areas:

**Computer Literacy and Applications:** An understanding of generic terminology, keyboard operation, menu selection strategies and logistics of program flow.

**Human Structure and Function:** General anatomy, anatomical relationships, organ and system functions in order to perform accurate radiographic examination for the defined discipline and recognize the area of interest on desired images.

**Medical Ethics:** Legal considerations which impact upon the scope of practice, respecting an established code of ethics and risk management.

**Medical Terminology:** An understanding of disease descriptions, abbreviations, symbols and terms or phrases necessary to successfully communicate with other health care professionals.

**Pathology:** Knowledge of disease and abnormalities that influence performance or outcome of a radiographic procedure.
**Patient Care:** Attention and concern for the physical and psychological needs of the patient. The individuals should recognize a life-threatening condition and implement basic life sustaining actions.

**Positioning:** Accurate placement of the body, respecting patient’s comfort, ability and safety to achieve prescribed results and best demonstrate the anatomy of interest. Techniques to physically manipulate and apply radiographic equipment to produce various projections and/or desired image.

**Principles of Radiographic Exposure:** Appropriate selection of all technical factors and equipment to produce a quality diagnostic image.

**Quality Control:** Preventive maintenance and knowledge of equipment capabilities, deliberation of and care of equipment within operating standards, sensitometry characteristics and monitoring of image processing systems for accuracy and consistency.

**Radiation Physics:** Atomic structure, beam quality, radiation interactions and the function and operations of various generator components.

**Radiation Protection:** The use of beam restricting devices, patient shielding techniques, proper screen-film combinations, accurate assessment and implementation of appropriate exposure factors and knowledge of applicable governmental regulations to minimize radiation exposure.

**Radiobiology:** An understanding of beam formation and radiation interaction with matter as it relates to genetic and somatic effects.
The Computed Tomography (CT)/Magnetic Resonance Imaging (MRI) Program, Division of Radiation Science Technology Education at the University of Nebraska Medical Center, seeks to provide classes and learning experiences which promote the student’s ability to provide appropriate diagnostic medical imaging and health care services. Graduates of the CT/MRI program will be highly skilled professionals qualified by education to perform imaging examinations and assume accompanying responsibilities at the request of a physician qualified to prescribe and/or perform radiologic procedures. Upon completion of the program, the CT/MRI graduate should be able to:

Skills Description
1. Perform magnetic resonance procedures as defined by the following:
   A. Corroborates patient’s clinical history with procedure, assuring information is documented and available for use by a licensed practitioner.
   B. Prepares patient for procedures; providing instructions to obtain desired results, gain cooperation, and minimize anxiety.
   C. Applies principles of magnetic resonance safety to minimize risk to patient, self and others.
   D. Selects and operates magnetic resonance system, surface coils, physiologic gating devices, and associated equipment to achieve desired results.
   E. Positions patient and equipment to best demonstrate the anatomic area of interest, respecting patient ability and comfort.
   F. Immobilized patients as required for appropriate examination.
   G. Selects appropriate pulse sequences respecting established protocols and other factors influencing data acquisition parameters.
   H. Understand methods and is capable of performing venipunctures.
   I. In agreement with state statute(s) and/or where institutional policy permits, prepares, identifies and/or administers contrast median and/or medications as prescribed by a licensed practitioner.
   J. Verifies informed consent for and assists a licensed practitioner with interventional procedures.
   K. Practices aseptic technique when necessary.
   L. Evaluates images and data for technical quality, manipulates display parameters, and provides a hard copy record of procedures assuring proper identification is evident.
   M. Assumes responsibility for provision of physical and psychological needs of patients during procedures.
   N. Maintains archival storage of digitized data as appropriate.
   O. Initiates basic life support action when necessary.

2. Provides patient education.
3. Assists in maintaining records, respecting confidentiality and established policy.
4. Assumes responsibility for assigned area and reports equipment malfunction.
5. Provides input for equipment purchase and supply decisions.
6. Provides practical instruction for students and other healthcare professionals.
7. Participates in the department’s quality assessment and improvement plan. May be responsible for specific quality control duties in the assigned area.
8. May be responsible for control of inventory and purchase of supplies for the assigned area.
9. Maintains knowledge of and observes universal precautions.
10. Understands and applies patient relations skills.
11. Pursues appropriate continuing education.

**Code of Ethics**
As members of the radiologic profession these principles shall serve as a guide by which Computed Tomography and Magnetic Resonance Imaging Technologists may evaluate their professional conduct as it relates to patients, colleagues, other members of the medical care team, health care consumers, and employers. The principles are intended to assist Radiation Science Technologists in maintaining a high level of ethical conduct.

1. CT/MRI technologists shall conduct themselves in a manner compatible with the dignity and professional standards of their profession.
2. CT/MRI technologists shall provide services with consideration of human dignity and the needs of the patient, unrestricted by consideration of age, sex, race, creed, social or economic status, handicap, personal attributes, or the nature of the health problem.
3. CT/MRI technologists shall make every effort to protect all patients from unnecessary radiation (electromagnetic, ionizing, and radio-frequency).
4. CT/MRI technologists should exercise and accept responsibility for independent discretion and judgment in the performance of their professional services.
5. CT/MRI technologists shall judiciously protect the patient’s right to privacy and shall maintain all patient information in the strictest confidence.
6. CT/MRI technologists shall apply only methods of technology founded upon a scientific basis and not employ those methods that violate this principle.
7. CT/MRI technologists shall not diagnose, but in recognition of their responsibility to the patient, they shall provide the physician with all information they have relative to radiologic diagnosis or patient management.
8. CT/MRI technologists shall be responsible for reporting unethical conduct and illegal professional activities to the appropriate authorities.
9. CT/MRI technologists should continually strive to improve their knowledge and skills by participating in educational and professional activities and sharing the benefits of their attainments with their colleagues.
10. CT/MRI technologists should protect the public from misinformation and misrepresentation.

**Professional Credentials**
At present, formal credentials are not identified specific to Magnetic Resonance or Computed Tomography practice. CT and MRI technologists should, however, possess the following qualifications:
1. Certification by the American Registry of Radiologic Technologists, or equivalent.
2. Should be an experienced medical imaging technologists demonstrating competency to successfully complete diagnostic procedures, and maintain additional education in sectional anatomy.
3. Possess valid state credential, if applicable.

5. The initials R.T.(R)(CT)(ARRT) indicate Registered Technologist in Radiography and Computed Tomography Imaging with certification by the American Registry of Radiologic Technologists.

**Scope of Practice**

Magnetic Resonance and Computed Tomography procedures are performed on any or all body organs, systems, or structures. Individuals must demonstrate competency to meet state licensure, permit, or certification requirements defined by law for magnetic resonance; or maintain appropriate medical imaging credential.

The practice of magnetic resonance imaging and computed tomography includes, but is not limited to, the following:

1. Procedures or examinations performed upon the order of, or for diagnostic interpretation by a licensed practitioner.
2. Optimal patient care applying established and accepted protocols.
3. Supervision of peers and/or student where applicable.
4. Continued evaluation of responsibilities and methods with recommendations for expansion of the profession.

**Compendium of Learning**

The art and science of magnetic resonance and computed tomography requires that the individual achieve specific knowledge and skills for a defined scope of practice.

Learning experiences, clinical practicum, and curriculum requirements shall be structured for the health care professional to successfully demonstrate the level of competency necessary for comprehensive practice in the following areas:

**Computer Literacy and Applications:** An understanding of generic terminology, keyboard operations, menu selection strategies and logistics of program flow.

**Human Structure and Function:** General anatomy, anatomical relationships, sectional anatomy, organ and system functions in order to perform accurate procedures and recognize the area of interest on desired images.

**Medical Ethics:** Legal considerations which impact upon the scope of practice, respecting an established code of ethics and risk management.

**Medical Terminology:** An understanding of disease and abnormalities which influence performance or outcome of a magnetic resonance or computed tomography procedure.

**Pathology:** Knowledge of disease and abnormalities which influence performance or outcome of a magnetic resonance procedure.

**Patient Care:** Attention and concern for the physical and psychological needs of the patient. The individuals should recognize a life-threatening condition and implement basic life sustaining actions.
**Positioning:** Accurate placement of the body (while respecting patient's comfort and safety) to achieve prescribed results and best demonstrate the anatomic area of interest. Utilize techniques to physically manipulate and apply magnetic resonance and computed tomography accessories to produce a desired image.

**Physical Science:** Knowledge of magnetic resonance properties, precession, radio frequency interactions and principles of image formation. An understanding of tissue response to radio frequency pulse sequences and subsequent image contrast.

**Quality Control:** Preventive maintenance and knowledge of equipment capabilities, calibration of, and care for, equipment respecting operating standards, sensitometry characteristics, and monitoring of image processing systems for accuracy and consistency.

**Safety and Protection:** Identification of risk factors, contraindications, and items that may become or cause damage when influenced by high magnetic fields and radio frequency energy. Techniques for screening individuals for magnetic resonance safety and a knowledge of restrictive barriers.

**Principles of Radiographic Exposure:** Appropriate selection of all technical factors and equipment to produce quality diagnostic images.

**Radiation Protection:** The use of beam restricting devices, patient shielding techniques, proper screen-film combinations, accurate assessment and implementation of appropriate exposure factors and knowledge of applicable governmental regulations to minimize radiation exposure.

**Radiation Physics:** Atomic structure, beam quality, radiation interactions and the function and operations of various generator components.

**Radiobiology:** An understanding of beam formation and radiation interaction with matter as it relates to genetic and somatic effects.
**CARDIOVASCULAR/INTERVENTIONAL TECHNOLOGY**

**Goals of the Program**
You are expected to learn the skills described to become a competent Cardiovascular-Interventional Technologist.

Cardiovascular-Interventional Technology is an integral and advancing component of diagnostic and therapeutic radiologic procedures. Cardiovascular-Interventional Technology includes angiography, non-vascular procedures, interventional procedures, venography, as well as central venous access procedures utilizing sophisticated equipment and imaging techniques. The skills of the cardiovascular-interventional technologist complement those of the interventional radiologist and of the other professionals in the field. The cardiovascular-interventional technologist should be able to perform the following tasks effectively:

**Skills Description**
1. **Patient Care**
   A. Acquire adequate knowledge of the patient’s medical history to understand and relate to their illness and pending diagnostic procedures or therapy.
   B. Recognize need for medical attention and administer emergency care including basic life support to patient during a critical situation while waiting for help to arrive.
   C. Provide for patient comfort and cooperation by familiarizing patient with the equipment and procedural aspects of the examination and by responding to questions, and by providing general psychological support.
   D. Evaluate the satisfactory preparation of the patient prior to commencing a procedure.

2. **Technical Skills**
   A. Apply knowledge of radiation physics and safety regulations to practice radiation safety, thereby limiting the radiation exposure to the patient, public, fellow workers, and to self to as low a level as reasonably achievable (ALARA).
   B. Prepare materials or trays with medications and materials for special treatments or procedures according to standard orders.
   C. Inspect, prepare and troubleshoot all equipment components of the procedure room, including imaging modality and automatic film processors, prior to the arrival of the patient.
   D. Use sterile or aseptic technique as required to help prevent infection.
   E. Operate computer-imaging systems as appropriate to cardiovascular-interventional technology.
   F. Employ special imaging techniques during procedure to enhance the diagnostic quality of the radiographic image.
   G. Assist the physician and/or angiographic team during the procedure.
   H. Utilize quality control techniques as a part of a quality assurance program for all procedures.
   I. Participate in research activities that demand a thorough knowledge of the many facets of cardiovascular-interventional technology.
3. **Administrative Functions**
   A. Supervise other cardiovascular-interventional technologists, students, and personnel.
   B. Record and maintain all procedural data.
   C. Participate in the procurement of sterile supplies, equipment, and medications required to operate the department.
   D. Participate in department inspections conducted by various licensing, regulatory, and accrediting agencies.
   E. Participate in the scheduling of patient's examinations.

**Code of Ethics**
Cardiovascular-interventional technologists, as members of the health care profession, must strive as individuals and as a group to maintain the highest ethical standards.

The following principles are not laws, but standards of conduct to be used as a guide by cardiovascular-interventional technologists.

**Principle 1:**
The cardiovascular-interventional technologists should provide health care services with respect for the patient’s dignity and age-specific needs.

**Principle 2:**
The cardiovascular-interventional technologists should act as a patient advocate to support patient’s rights.

**Principle 3:**
The Cardiovascular-Interventional technologist should take responsibility for professional decisions.

**Principle 4:**
The Cardiovascular-Interventional technologists should deliver patient care and service without bias based on personal attributes, nature of the disease, sex, race, creed, religion or socioeconomic status.

**Principle 5:**
The Cardiovascular-Interventional technologist should respect the patient’s right to privacy and confidentiality.

**Principle 6:**
The Cardiovascular-Interventional technologist should adhere to the established practice standards of the profession.

**Professional Credentials**
1. State statutes may exist which define and/or limit the scopes of practice for individuals who perform cardiovascular-interventional radiologic procedures.
2. The initials R.T.(CV)(ARRT) indicate Registered Technologist Cardiovascular-Interventional Technology with certification by the American Registry of Radiologic Technologists.
Practice Standards
The practitioner
1. collects pertinent data about the patient and about the procedure.
2. analyzes the information obtained during the assessment phase and develops an action plan for completing the procedure.
3. provides information about the procedure to the patient, significant others and health care providers.
4. implements the action plan.
5. determines whether the goals of the action plan have been achieved.
6. implements the revised action plan.
7. reviews and evaluates the outcome of the procedure.
8. documents information about patient care, the procedure and the final outcome.
9. collects pertinent information regarding equipment, procedure and the work environment.
10. analyzes information collected during the assessment phase and determines whether changes need to be made to equipment, procedures of the work environment.
11. informs the patient, public and other health care providers about procedures, equipment and facilities.
12. performs quality assurance activities or acquires information on equipment and materials.
13. evaluates quality assurance results and establishes an appropriate action plan.
14. implements the quality assurance action plan.
15. assesses the outcome of the quality assurance action plan in accordance with established guidelines.
16. documents quality assurance activities and results.
17. strives to provide optimal care to all patients.
18. evaluates personal performance, knowledge and skills.
19. acquires and maintains current knowledge in clinical practice.
20. promotes a positive, collaborative practice atmosphere with other members of the health care team.
21. adheres to the profession’s accepted ethical standards.
22. participates in the acquisition, dissemination and advancement of the professional knowledge base.

Compendium of Learning
The art and science of Cardiovascular/Interventional Technology requires that the individual achieve specific knowledge and skills for a defined scope of practice.

Learning experiences, clinical practicum and curriculum requirements shall be structured for the health care professional to successfully demonstrate the level of competency necessary for comprehensive practice in the following areas:

Cardiovascular-Interventional Techniques and Procedures: Theoretical and practical application of cardiovascular-interventional procedures including: angiography, venography, non-vascular procedures, interventional procedures, and central venous access procedures.

Emergency Care Procedures: Knowledge and ability to recognize characteristics of life threatening patient conditions and be able to administer emergency care procedures.
**Human Structure and Function:** Angiographic anatomy, cross-sectional anatomy, and organ and system functions in order to perform accurate procedures and recognize the area of interest on desired images.

**Image Enhancement Technology:** An understanding of the various techniques that influence and enhance image quality to include: film techniques, film/screen imaging and digital imaging.

**Pathology:** Knowledge of disease and angiographic abnormalities which influence performance or outcome of an angiographic procedure.

**Patient Physiology and Care:** An overview to the special needs of the patient having a cardiovascular-interventional procedure including: patient psychology, legal consideration, and patient communication.

**Pharmacology:** Knowledge of characteristics, systemic effects, and comparisons of contrast media and medications that are administered in conjunction with cardiovascular-interventional procedures.

**Physiologic Monitoring and Recording:** An understanding of the theories and application of patient physiologic monitoring and recording that take place during cardiovascular-interventional procedures.

**Quality Control:** Primary factors that govern the production and accuracy of radiographic exposure, protection, and the visibility of the radiographic/fluoroscopic/digital image.

**Radiation Protection:** An understanding of the principles of radiation protection and the radiation protection responsibilities of the cardiovascular-interventional technologist for patients and personnel.

**Specialized Equipment and Instrumentation:** An overview of radiographic and ancillary equipment necessary to establish a site designed to perform diagnostic and therapeutic cardiovascular-interventional procedures.

**Sterile Technique and Isolation Procedures:** An understanding of sterile technique, isolation procedures and infection control that apply to cardiovascular-interventional procedures.

**Venipuncture:** The theory and practice of the basic techniques of venipuncture and the administration of contrast media and/or intravenous medication.
NUCLEAR MEDICINE TECHNOLOGY

Goals of the Program
The Nuclear Medicine Technology Program is nationally accredited by the Joint Review Committee for Educational Programs in Nuclear Medicine Technology (JRCNMT) located at #1, 2nd Avenue East, Polson, MT 59680-2320. The following is a description of the profession as provided in the “Essentials and Guidelines of the Accredited Education Program for the Nuclear Medicine Technologist.”

The program is guided by the Essentials and, as a student, you are expected to learn the skills described to become a competent Nuclear Medicine Technologist.

Nuclear Medicine is the medical specialty that utilizes the nuclear properties of radioactive and stable nuclides to make diagnostic evaluations of the anatomic or physiologic conditions of the body and to provide therapy with unsealed radioactive sources. The skill of the nuclear medicine technologist complements those of the nuclear medicine physician and of the other professionals in the field. The nuclear medicine technologist should be able to perform the following tasks effectively:

Skills Description
1. Patient Care:
   A. Acquire adequate knowledge of the patient’s medical history to understand and relate to their illness and pending diagnostic procedures or therapy.
   B. Recognize emergency patient conditions and initiate lifesaving first aid prior to the physician’s arrival.
   C. Instruct the patient prior to and during the procedure.
   D. Evaluate the satisfactory preparation of the patient prior to commencing a procedure.
2. Technical Skills:
   A. Apply knowledge of radiation physics and safety regulations to practice radiation safety, thereby limiting the radiation exposure to the patient, public, fellow workers, and to self to as low a level as reasonably achievable (ALARA).
   B. Prepare and, where permitted, administer radiopharmaceutical and other agents used in conjunction with nuclear medicine procedures to patients by intravenous, intramuscular, and subcutaneous injection, aerosol and oral methods.
   C. Understand and utilize radiation detection devices and other laboratory equipment that measure the quality and distribution of radionuclides deposited in the patient or a patient specimen.
   D. Perform in-vivo and in-vitro diagnostic procedures, understanding these tasks sufficiently well to exercise judgment in the performance of these examinations and procedures for the benefit of the patient and to improve the diagnostic quality of the data produced.
   E. Utilize quality control techniques as a part of a quality assurance program for all procedures.
   F. Participate in research activities that demand a through knowledge of the many facets of nuclear medicine.
   G. Operate computer systems as appropriate to nuclear medicine procedures.
3. Administrative Functions
   A. Supervise other nuclear medicine technologists, students, laboratory assistants, and other personnel.
   B. Participate in the procurement of supplies and equipment required to operate the facility.
   C. Document all operations of the laboratory including the receipt and disposition of radioactive materials, instrument and procedural quality control data, patient procedures, and medical records, understanding these tasks sufficiently well to exercise judgment in the scheduled performance of these examinations and procedures.
   D. Participate in department inspections conducted by various licensing, regulatory, and accrediting agencies.
   E. Participate in the scheduling of patient’s examinations.

Code of Ethics
Nuclear Medicine Technologists, as members of the health care profession, must strive as individual and as a group to maintain the highest ethical standards.

The following principles are adopted by the Society of Nuclear Medicine Technologist Section. They are not laws, but standards of conduct to be used as a guide by nuclear medicine technologists.

Principle 1:
The Nuclear Medicine Technologists should provide service with compassion and respect the rights of the patient.

Principle 2:
The Nuclear Medicine Technologist should hold in strict confidence all privileged information concerning the patient.

Principle 3:
The Nuclear Medicine Technologist should comply with the laws and regulations governing the practice of nuclear medicine.

Principle 4:
The Nuclear Medicine Technologist should be responsible for the competent performance of assigned duties.

Principle 5:
The Nuclear Medicine Technologist should strive continuously to improve knowledge and skills.

Principle 6:
The Nuclear Medicine Technologist should not engage in fraud or deception.

Principle 7:
The Nuclear Medicine Technologist should be willing to assume responsibility to participate in activities that promote community and national response to health needs.
The practice of Nuclear Medicine is performed by a segment of health care professionals responsible for the administration of radioactive material to humans and animals for diagnostic, therapeutic or research purposes.

Professional Credentials
1. State statutes may exist which define and/or limit the scopes of practice for individuals who perform nuclear medicine procedures.
2. The initials R.T.(N)(ARRT) indicates Registered Technologists Nuclear Medicine with certification by the American Registry of Radiologic Technologists.
3. The initials C.N.M.T. indicates Certified by Nuclear Medicine Technologists Certification Board.
4. The initials NMT indicates Nuclear Medicine Technologist with certification by the American Society of Clinical Pathologists (ASCP).

Scope of Practice/Practice Standards
The practice of Nuclear Medicine Technology includes, but is not limited to, the following:
1. Procedures or examinations performed upon the order of, and for, diagnostic interpretation by a licensed practitioner.
2. Optimal patient care applying established and accepted protocols.
3. Supervision of peers and/or students where applicable.
4. Continued evaluation of responsibilities and methods with recommendations for expansion of the profession.

One level of practice is identified for Nuclear Medicine Technologists: Comprehensive Practice

Nuclear Medicine is performed on any or all body organs, systems or structures. Individuals demonstrate competency to meet licensure, permit, or certification requirements defined by law for in vivo and in vitro whole body examination; or maintain the credential R.T.(N) (ARRT) or CNMT(NMTCB) or NMT(ASCP).

Compendium of Learning
The art and science of Nuclear Medicine Technology requires that an individual achieve specific knowledge and skills for a defined scope of practice.

Learning experiences, clinical practicum and curriculum requirements shall be structured for the health care professional to demonstrate the level of competency necessary for comprehensive practice in the following areas:

Computer Literacy and Applications: An understanding of generic terminology, keyboard operations, menu selection strategies and logistics of program flow.

Human Structure and Function: General anatomy, anatomical relationships, sectional anatomy and organ and system functions in order to perform accurate procedures and recognize the area of interest on desired images.

Instrumentation: An understanding of the operation of devices, radiation detectors, laboratory instruments and equipment.
In Vitro Procedures: An understanding of the operation of devices, radiation detectors, laboratory instruments and equipment.

In Vivo Procedures: The art of producing diagnostic images, system function studies, body competition tests, erythrokinetic studies and gastrointestinal substance studies.

Medical Ethics: Legal considerations which impact upon the scope of practice, respecting an established code of ethics and risk management.

Medical Terminology: An understanding of disease descriptions, abbreviations, symbols and terms and phrases necessary to successfully communicate with other health care professionals.

Pathology: Knowledge of disease and abnormalities which influence performance or outcome of a nuclear medicine procedure.

Patient Care: Attention and concern for the physical and psychological needs of the patient. The individual should recognize a life-threatening condition and implement basic life sustaining actions.

Positioning: Accurate placement of the body, respecting patient’s comfort, ability and safety to achieve prescribed results and best demonstrate the anatomic area of interest. Utilize techniques to physically manipulate and apply nuclear medicine equipment to produce a desired image.

Physical Science: A knowledge of the composition and stability of radiopharmaceutical, modes of radioactive decay and an understanding of dosimetry and radiation detection methods.

Quality Control: Preventive maintenance and knowledge of equipment capabilities, calibration of and care for radioactive materials or equipment respecting operating standards, sensitometry characteristics and monitoring image processing systems for accuracy and consistency.

Radiobiology and Protection: Administration of radioactive materials to reduce exposure to the patient and personnel, the techniques of measuring levels of radioactive materials, the effects of radiation exposure, established safety protocols and emergency procedures for radionuclide spills and knowledge of applicable government regulations to minimize radiation exposure, established safety protocols and emergency procedures for radionuclide spills and knowledge of applicable government regulations to minimize radiation exposure.

Radiopharmaceutical: An understanding of radiopharmaceutical quality control; radionuclide production; the formulation of radiopharmaceutical and the mechanism of localization, alterations and normal distribution of each within the body.

Therapy: An understanding of the therapeutic applications of radionuclides, as well as special problems encountered in patient handling and care.
The Radiation Therapy Program, Division of Radiation Science Technology Education at the University of Nebraska Medical Center, is dedicated to balanced clinical and classroom education excellence. Students, who have a genuine interest in outstanding care for cancer patients and a desire to achieve the goals of the program, are sought to apply for admission to the program.

The program adheres to the Standards for an Accredited Program in Radiation Therapy (available in the program director’s Office) published by the Joint Review Committee on Education in Radiologic Technology and is guided by the JRCERT recognized curriculum for Radiation Therapists.

Competent radiation therapists’ skills include, but may not be limited to, those identified in the Scope of Practice as printed on following pages in this document. A more detailed description is listed in the Clinical Education Notebook given to each student at the beginning of the year.

**Skills Description**

**Code of Ethics**

The radiation therapist advances the principal objective of the profession to provide services to humanity with full respect for the dignity of mankind.

The radiation therapist delivers patient care and service unrestricted by concerns of personal attributes or the nature of the disease or illness, and without discrimination on the basis of sex, race, creed, religion or socioeconomic status.

The radiation therapist assesses situations; exercises care, discretion and judgment; assumes responsibility for professional decisions and assists in the best interest of the patient.

The radiation therapist adheres to the tenets and domains of practice defined in the Scope of Practice for Radiation Therapists.

The radiation therapist actively engages in lifelong learning to maintain, improve and enhance professional competence and knowledge. Approved 1998 ASRT House of Delegates

**Scope of Practice/Practice Standards**

**Preface**

The following document defines the role and responsibilities of Radiation Therapists in the contemporary practice of radiation therapy. Accredited educational programs for radiation therapists encompass the cognitive, psychomotor and affective elements fundamental to the Scope of Practice defined herein.

The assumed and assigned role and responsibilities have evolved over time and are consistent with contemporary clinical practice. It is recognized that there exists
variations in local, state or federal statues or regulations which supersede the specifics contained herein.

Introduction
The structural elements of radiation therapy technology as a health profession in the contemporary health care delivery system in the United States include the following:

- cognitive base
- structural curriculum
- a professional credential
- a code of ethics
- clinical practice autonomy
- self-governance

The history of these elements combines in a complex structure which can be traced across historical time spans and contemporary functional boundaries. For example, in the history of radiography, radiation therapy was at one time an area of responsibility of the radiographer. This is no longer true today.

Curriculum of the discipline contains elements of physics, psychology, patient care and pathology among others which cross horizontally through several medical specialties. The professional curriculum incorporates didactic and clinical elements and basic sciences that are reflective of contemporary practice in radiation therapy technology. The content and structural learning experiences facilitate attitudes and skills that prepare graduates to demonstrate a commitment to patient care and continued personal and professional development.

Description of the Profession
Radiation therapists assist in localizing tumors, participate in treatment planning and deliver high doses of ionizing radiation prescribed by the radiation oncologist. Radiation therapists are the primary liaison between patients and other members of the radiation oncology team. They also provide a link to other health care providers, such as social workers and dieticians.

Radiation therapy often involves daily treatments extending over several weeks. This treatment method uses highly sophisticated equipment and requires a great deal of initial planning as well as constant patient care and monitoring. Radiation therapists must maintain a high degree of accuracy and an awareness of safety issues. They also must remain sensitive to the physical and emotional needs of patients.

Radiation therapists must demonstrate and understanding of cancer, radiation biology, radiation therapy techniques, equipment technology, radiation safety and the psychological aspects of cancer. The radiation therapist uses professional judgment and critical thinking when assisting with treatment planning, recognizing and resolving equipment problems and treatment discrepancies, anticipating patient’s needs and concerns and determining when treatment should be withheld until a physician can be consulted.

Education and Certification
Radiation therapists prepare for their role on the interdisciplinary team by satisfactorily completing an accredited educational program in radiation therapy. One- and two-year
certificate, associate degree and four-year baccalaureate degree programs exist throughout the United States.

Accredited programs must meet specific curricular and educational standards. The Joint Review Committee on Education in Radiologic Technology (JRCERT) is the accrediting agency for radiation therapy programs recognized by the U.S. Department of Education.

Upon completion of a course of study in radiation therapy, individuals may apply to take the national certification examination. The American Registry of Radiologic Technologists (ARRT) is the recognized certifying agency for radiation therapy. Those who successfully complete the certification examination in radiation therapy may use the credential R.T.(T) following their name; R.T. signifies registered technologist and the (T) indicates radiation therapy.

To maintain ARRT certification, a level of expertise and awareness of changes and advances in practice, radiation therapists must complete 24 hours of appropriate continuing education every two years.

**Practice Standards**
The practice standards define the practice and establish general criteria to determine compliance. Practice standards are authoritative statements enunciated and promulgated by the profession for judging the quality of practice, service, and education. They include desired and achievable levels of performance against which actual performance can be measured.

Professional practice constantly changes and actual practice varies from state to state as determined by local law and community custom. Recognizing this, the profession has adopted standards that are general in nature. The general format was favored over a “cookbook” style or “step-by-step” approach that would be difficult to maintain in changing environment and confining for those practitioners with and expanded practice.

The standards focus on the dynamic nature of the health care delivery system. The standards are adaptable not only to the area of practice but also the locality of practice and institutional needs. While minimum standard of acceptable performance is appropriate and should be followed by all practitioners in a specific area, it is unrealistic and highly inappropriate to assume that professional practice is the same in all regions of the United States. State statute or regulation may dictate practice parameters. To conduct an appropriate review of the standards, one must look to the professional standard as well as local or state law that may impact the nature and scope of practice.

**Format**
The cohesive nature and inherent differences of medical imaging and radiation therapy are recognized in the general format of the standards. The standards are divided into three sections: clinical performance, quality performance and professional performance.

*Clinical Performance Standards.* The clinical performance standards define the activities of the practitioner in the care of patients and delivery of diagnostic or therapeutic procedures and treatments. The section incorporates patient assessment and management with procedural analysis, performance and evaluation.
Quality Performance Standards. The quality performance standards define the activities of the practitioner in the technical areas of performance including equipment and material assessment, safety standards and total quality management.

Professional Performance Standards. The professional performance standards define the activities of the practitioner in the areas of education, interpersonal relationships, personal and professional self-assessment and ethical behavior.

Radiation Therapy Clinical Performance Standards

Standard One – Assessment
The practitioner collects pertinent data about the patient and the procedure.

Standard Two – Analysis/Determination
The practitioner analyzes the information obtained during the assessment phase and develops an action plan for completing the procedure.

Standard Three – Patient Education
The practitioner provides information about the procedure to the patient, significant others and health care providers.

Standard Four – Implementation
The practitioner implements the action plan.

Standard Five - Education
The practitioner determines whether the goals of the action plan have been achieved.

Standard Six – Implementation
The practitioner implements the revise action plan.

Standard Seven – Outcomes Measurement
The practitioner reviews and evaluates the outcome of the procedure.

Standard Eight – Documentation
The practitioner documents information about patient care, accuracy of care and quality assurance.

Quality Performance Standards

Standard One – Assessment
The practitioner collects pertinent information regarding equipment, the procedures and the work environment.

Standard Two – Analysis/Determination
The practitioner analyzes information collected during the assessment phase and determines whether changes need to be made to equipment, procedures of the work environment.
Standard Three – Education
The practitioner informs the patient, public and other health care providers about procedures, equipment and facilities.

Standard Four – Performance
The practitioner performs quality assurance activities or acquires information on equipment and materials.

Standard Five – Evaluation
The practitioner evaluates quality assurance results and establishes an appropriate action plan.

Standard Six – Implementation
The practitioner implements the quality assurance action plan.

Standard Seven – Outcomes Measurement
The practitioner assesses the outcomes of the quality assurance action plan in accordance with established guidelines.

Standard Eight – Documentation
The practitioner documents quality assurance activities and results.

Professional Performance Standards

Standard One – Quality
The practitioner strives to provide optimal care to all patients.

Standard Two – Self-Assessment
The practitioner evaluates personal performance, knowledge and skills.

Standard Three – Education
The practitioner acquires and maintains current knowledge in clinical practice.

Standard Four – Collaboration and Collegiality
The practitioner promotes a positive, collaborative practice atmosphere with the other members of the health care team.

Standard Five – Ethics
The practitioner adheres to the profession’s accepted Code of Ethics.

Standard Six – Exploration and Investigation
The practitioner participates in the acquisition, dissemination and advancement of the professional knowledge base.
DIAGNOSTIC MEDICAL SONOGRAPHY

Standards
The following is a description of the profession as provided in the Standards and Guidelines for the Profession of Diagnostic Medical Sonography by the Joint Review Committee on Education in Diagnostic Medical Sonography, effective January 1, 2002.

The program is guided by the “Standards” and, as a student, you are expected to learn the skills described to become a competent Diagnostic Medical Sonographer.

Description of Profession
The profession of diagnostic medical sonography includes general sonography, cardiac sonography, vascular technology, and various subspecialties. The profession requires judgment and the ability to provide appropriate health care services. Sonographers/vascular technologists are highly skilled professionals qualified by education to provide patient services using diagnostic techniques under the supervision of a licensed doctor of medicine or osteopathy. The sonographer/vascular technologist may provide this service in a variety of medical settings where the physician is responsible for the use and interpretation of appropriate procedures. Sonographers/vascular technologists assist physicians in gathering data necessary to reach diagnostic decisions. The sonographer/vascular technologists is able to perform the following:

1. Obtain, review, and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
2. Perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician.
3. Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician.
4. Exercise discretion and judgment in the performance of sonographic/and or other noninvasive diagnostic services.
5. Demonstrate appropriate communication skills with patients and colleagues.
6. Act in a professional and ethical manner.
7. Provide patient education related to medical ultrasound and/or other non-invasive diagnostic vascular techniques, and promote principles of good health.

The Diagnostic Medical Sonography Program, Division of Radiation Science Technology Education at the University of Nebraska Medical Center, is designed to provide the student with a balanced clinical and didactic curriculum in Diagnostic Medical Sonography in the specialty areas of abdomen, obstetrics and gynecology, ultrasound physics and neurosonology. The primary objectives of the Program are to prepare the sonographer to:
1. Utilize oral and written communication.
2. Provide basic patient care and comfort.
3. Demonstrate knowledge and understanding of human gross and sectional anatomy.
4. Demonstrate knowledge and understanding of physiology, pathology and pathophysiology.
5. Demonstrate knowledge and understanding of acoustical physics, Doppler ultrasound principles and ultrasound instrumentation.
6. Demonstrate knowledge and understanding of the interaction between ultrasound and tissue and the probability of biological effects in clinical examinations.
7. Employ professional judgment and discretion.
8. Understand the fundamental elements for the implementing a quality assurance and improvement program, and the policies, protocols, and procedures for the general function of the ultrasound laboratory.
9. Recognize the importance of continuing education.

**Code of Professional Conduct**

**Preamble**
The Code of Professional Conduct of the Society of Diagnostic Medical Sonography is a statement of the high standards of conduct toward which sonographers are committed to strive.

Sonographers, as members of a health care profession, acknowledge their responsibilities to their patients, to other health care professionals, and to each other.

**Code of Professional Conduct**
1. Sonographers shall act in the best interest of the patient.
2. Sonographers shall provide sonographic services with compassion, respect for human dignity, honesty, and integrity.
3. Sonographers shall respect the patient’s right to privacy, safe-guarding confidential information within the constraints of the law.
4. Sonographers shall maintain competence in their field.
5. Sonographers shall assume responsibility for their actions.

**Scope of Practice**
The Diagnostic Ultrasound Professional is an individual qualified by professional credentialing and academic and clinical experience to provide diagnostic patient care services using ultrasound and related diagnostic procedures. The scope of practice of the Diagnostic Ultrasound Professional includes those procedures, acts and processes permitted by law, for which the individual has received education and clinical experience, and in which he/she has demonstrated competency.

**Diagnostic Ultrasound Professionals**
1. Perform patient assessments.
2. Acquire and analyzed data obtained using ultrasound and related diagnostic technologies.
3. Provide a summary of findings to the physician to aid in patient diagnosis and management.
4. Use independent judgment and systematic problem solving methods to produce high quality diagnostic information and optimize patient care.
Professional Credentials
A diagnostic sonographer possesses competency-based certification by successfully passing a credentialing examination in one or more of the three disciplines of the profession. These disciplines and their related credentials as provided by the American Registry of Diagnostic Medical Sonographers are:

1. Medical Sonography   RDMS (Registered Diagnostic Medical Sonographer)
2. Cardiac Sonographer   RDCS (Registered Diagnostic Cardiac Sonographer)
3. Vascular Technology   RVT (Registered Vascular Technologist)

Minimum entry level for the profession is acquisition of one or more of the professional credentials listed previously. The candidate must pass required examinations to earn the ARDMS credential. These required examinations are:
1. **RDMS** = Ultrasound Physics and Instrumentation + Abdomen, or Obstetrics and Gynecology, or Neurosonology, or Ophthalmology.
2. **RDCS** = Cardiovascular Principles and Instrumentation + Adult Echocardiography or Pediatric Echocardiography.

Diagnostic sonographers must obtain continuing medical education or successfully complete an additional ARDMS credentialing examination to maintain active status with the ARDMS.

Compendium of Learning
The art and science of sonography requires that the individual achieve specific knowledge and skills for a defined scope of practice. Learning experiences, clinical practicum and curriculum requirements shall be structured for the health care professional to successfully demonstrate the level of competency necessary for comprehensive practice or limited practice in the following areas.

**Computer Literacy and Applications:** An understanding of generic terminology, keyboard operations, menu selection strategies and logistics of program flow.

**Human Structure and Function:** General anatomy, anatomical relationships, sectional anatomy and organ and system functions in order to perform accurate procedures for the defined discipline; and accurately identify the area of interest on resulting images.

**Instrumentation:** An understanding of the operation of devices, transducer selection; A-mode, B-mode, T-M mode, Real Time and Doppler, hard copy image recorders and other processing techniques.

**Medical Ethics:** Legal considerations which impact upon the Scope of Practice, respecting an established Code of Ethics and risk management.

**Medical Terminology:** An understanding of disease descriptions, abbreviations, symbols and terms or phrases necessary to successfully communicate with other health care professionals.

**Pathology:** Knowledge of disease and abnormalities which influence performance or outcome of an ultrasound procedure. Ultrasonic characteristics of pathophysiology and abnormal tissue.
**Patient Care:** Attention to and concern for the physical and psychological needs of the patient. The individual should recognize a life threatening condition and implement basic life sustaining actions.

**Positioning:** Accurate placement of the body, respecting patient’s comfort, ability and safety to achieve prescribed results and best demonstrate the anatomic area of interest. Utilize techniques to physically manipulate and apply appropriate transducers and equipment to produce a desired image.

**Physical Science:** A knowledge of propagation properties, transducer parameters, beam profile, Doppler effect, interaction properties with human tissue and possible biologic effect.

**Quality Control:** Preventive maintenance and knowledge of equipment capabilities, calibration of and care for equipment respecting operating standards, sensitometry characteristics and monitoring of image processing systems for accuracy and consistency.

**Scanning Procedures:** Ability to select appropriate equipment and scanning techniques to optimally visualize areas of interest.

**Educational Experiences:**
Practical experience in various settings is an important educational component of the programs in the Division of RSTE. Such hands-on experiences provide a unique form of learning and contribute to professional development.

The Diagnostic Medical Sonography Program uses non-clinical scanning labs as a component of the program. These labs are performed under the supervision of a registered sonographer. DMS students are required to sign the following form if they volunteer as a scanning model.
VOLUNTEER AUTHORIZATION FORM

By signing this form you agree to act as a volunteer for one or more sonogram studies performed by the students enrolled at the University of Nebraska Medical Center. The purpose of your participation will be to assist students in their educational and clinical training.

Subjects will be exposed to ultrasound beam intensities typical of exposure conditions used for normal diagnostic practice. These intensities will be less than 1W/cm² (for focused ultrasound) which is the standard approved by the American Institute of Ultrasound in Medicine, October 1987.

Sonograms performed by a UNMC student will be done under the supervision of a registered sonographer with attention focused on prudent use of exposure times.

A student of the Diagnostic Medical Sonography Program is not required to sign this form or serve as a volunteer. Failure to sign this form will in no way adversely affect the student’s grade or program outcome.

_____________________   ________________________________
Date      Participant

_____________________   ________________________________
Date        Witness
SECTION II

ACADEMIC POLICIES

Academic Integrity
The Division of Radiation Science Technology Education adheres to UNMC Policy No. 7005 for Academic Integrity. This policy is printed in its entirety in the SAHP Policies for Students.

Academic Progress
Students enrolled in programs in the Division of Radiation Science Technology Education are expected to make satisfactory academic progress toward the completion of their program’s requirements. The faculty of each program reserves the right to recommend that a student withdraw if health, scholastic standing, clinical or laboratory performance, unprofessional behavior or other factors make it impractical and inadvisable for the student to continue in the program.

Academic grades are based on evaluation of professional behaviors, knowledge and theory, and technical competencies. A program may dismiss a student based on failure in any one of these domains of learning.

Evaluation of Performance
Students enrolled in RSTE programs are expected to make satisfactory academic progress towards the completion of their program’s requirements.

Each RSTE program will utilize a system of evaluations that assures fair evaluation practices will be utilized on a regular and consistent basis.

The system will include:
1. An evaluation of the domains of learning appropriate for the particular course or clinical rotation. Domains assessed will include the cognitive (knowledge), affective (professional behavior), and psychomotor (technical skills).

2. A description of minimal passing performance level (standards) in the cognitive, affective, and psychomotor domains for each course and clinical rotation.

3. A time frame for evaluation of the three domains that is based on the length of the program, with a minimum of two evaluations completed before the mid point of the program, e.g. by six months in a program of 12-month duration.

4. A description of how the final grade is derived from the areas evaluated.

Students will be informed of the expectations in all three learning domains at the beginning of each course or clinical rotation.
Procedure for Clinical Evaluations

1. Clinical evaluations also include the three domains of learning: cognitive (knowledge), affective (professional behaviors), and psychomotor (technical skills).
   a. The student will receive a minimum of two evaluations for affective, psychomotor & cognitive areas in the program before the mid point of the clinical component of the program. Any ongoing issues will be identified immediately, discussed, and verbal counseling will be documented. Students who do not show immediate rectification of the problems can be put on academic probation. If a student is put on academic probation in their clinical class, the following steps will be followed:

2. Students who perform at a non-acceptable level as defined by the program, in any of the three domains, may be placed on immediate academic probation.
   a. Students will be notified of the nature of the problem and discuss ways to improve.
   b. The length of the probationary period will be determined on an individual basis, but will be clearly defined.
   c. At a defined time the student will receive another evaluation. If improvement is not demonstrated, the student can be pulled from clinic and a failing grade can be issued for the clinical course. A committee of program directors in the division will assess and determine if dismissal from the program will be recommended.
   d. If improvement is shown the student may either be removed from probation or probation may be continued for a defined time.
   e. If the behavior is noted again at anytime in the remainder of the program the student can immediately receive a failing grade for the course and be recommended for dismissal.

3. The student will be informed of the results of their performance evaluations in a timely manner.

4. The instructor/preceptor will inform the program of evaluation results immediately upon completing the evaluations.

5. Evaluations, supporting documentation and counseling notes will be retained in the student’s file according to University of Nebraska policy (30 days following posting of grade OR returned to student). (See policy on Retention of Evaluation Materials, below.)

6. The instructor/preceptor/clinical coordinator will provide written, dated documentation of incidents that support the evaluation of a student who has failed to achieve minimal passing standards in the course or clinical rotation.

7. A second unacceptable evaluation may result in dismissal from the program.
Procedure for Didactic Course Evaluation

Unless specified differently in the course syllabus, grades will be issued based on the following grading scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentile Range</th>
<th>Quality Points</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97.000-100.00</td>
<td>4.00</td>
<td>WP = Withdrew passing</td>
</tr>
<tr>
<td>A</td>
<td>93.000-96.999</td>
<td>4.00</td>
<td>WF = Withdrew failing</td>
</tr>
<tr>
<td>A-</td>
<td>90.000-92.999</td>
<td>3.67</td>
<td>I = Incomplete</td>
</tr>
<tr>
<td>B+</td>
<td>87.000-89.999</td>
<td>3.33</td>
<td>NR = No report</td>
</tr>
<tr>
<td>B</td>
<td>83.000-86.999</td>
<td>3.00</td>
<td>WX = Administrative withdrawal</td>
</tr>
<tr>
<td>B-</td>
<td>80.000-82.999</td>
<td>2.67</td>
<td>W = Withdrawal (good standing)</td>
</tr>
<tr>
<td>C+</td>
<td>77.000-79.999</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>73.000-76.999</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>70.000-72.999</td>
<td>1.67</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>67.000-69.999</td>
<td>1.33</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>63.000-66.999</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>D-</td>
<td>60.000-62.999</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
<td>.00</td>
<td></td>
</tr>
</tbody>
</table>

All courses must be passed with a grade of C- or better to remain in the program unless a waiver is approved by the Program Directors’ Committee (PDC) for a grade no lower than D-. It is the student’s responsibility to submit a typed grade waiver request form to the PDC, via the student’s program director/coordinator. The deadline for submitting request for waiver is 30 days after grades are posted by the Academic Affairs Office. Waiver requests will only be considered from students whose cumulative UNMC GPA is a 3.0 or higher. If a waiver is not approved, the student will be given the opportunity to repeat a course only once at the next time offered. A grade of C- or better must be achieved for any repeated course. Failure to earn a grade of C- or better for any repeated course will result in immediate dismissal. Loss of regularly scheduled clinic hours involved with a repeat of course(s) must be made up as determined by the program director/coordinator.

The policy and procedure for student appeals of academic evaluations is discussed in detail in the SAHP Policy & Procedure Manual, section A-10. The appeals committee will contact the student within two weeks of the submission as to the status of the appeal process. In any matter involving an appeal by a student, the appeals committee will not include anyone from within the student's program.

Probation

A student who receives a semester grade point average (GPA) of less than 2.00 or ends a semester with a cumulative GPA below 2.00 will be placed (or will continue) on probation. The student will remain on probation until a semester is completed with both a semester and cumulative GPA at or above 2.00, or until the student is dismissed.
Academic probation will be allowed for failure to achieve a 2.0 cumulative grade point average for only one semester during the program. Failure of the student to raise his/her cumulative GPA to a 2.0 at the end of a probationary semester will result in dismissal.

Academic probation will be initiated for students who fail to meet the evaluation criteria and fail to show improvement in any of the three domains in clinical courses. If a failing grade is given, the student may be recommended for dismissal.

Academic probation will be allowed for only one semester during a student’s course of study. Failure of the student to raise his or her cumulative grade point average or to earn minimum required grades during the probationary semester and all subsequent semesters will result in dismissal from the program.

**Dismissal**

It is expected that students will complete the requirements of the program in a cooperative, professional, and ethical manner at all times. In addition to conditions stated in Evaluation of Student Performance, a student may also be dismissed without notice for documentation of any of the following reasons:

1. Failure to respect confidentiality and privileged information concerning patient data, records, and conditions (according to Institutional Policy).
2. Insubordination, including failure to follow direction and instructions, and inappropriate response to constructive criticism.
3. Willful destruction of UNMC property.
4. Intoxication or bringing intoxicants onto the premises.
5. Habits or state of health endangering the student, patients, or staff.
6. Use of non-prescribed controlled substances or inappropriate use of prescribed substances.
7. Falsification or misinterpretation of any school or education record, report, transcript, or personnel record.
8. Cheating on academic examinations or any other form of academic dishonesty, i.e., plagiarism.
9. Inefficiency, lack of cooperation, unreasonable absence and related conditions are cause for dismissal after warning or probation has been issued.
10. If a student has been previously warned twice, placed on probation, or temporarily suspended for the same reason, the student may be dismissed immediately.
11. Dismissal will be instituted by the program if a student fails to attend classes for three consecutive weeks without receiving prior approval from their respective program director.
12. All rights and privileges will be discontinued immediately upon dismissal.
13. Students have the right to appeal dismissal decisions as outlined in the UNMC Student Handbook/SAHP Policies for Students.
Grade Waiver Request Form

Division of Radiation Sciences Technology Education

Student Name ___________________________ Date ___________

Date Grades Were Posted ______________________

RSTE Program _______________________________________________________

Course Number and Title _________________________________________________

Course Instructor ____________________________ Semester Hours ______

Grade Received _______________________________

Explanation for receiving the above grade -

Detailed remedial plan supporting waiver request -

Schedule for completion of plan -

Student Signature ________________________________

PDC recommendation –

____ Request denied

____ Request approved

____ Resubmit request with the following recommendation(s):
Admissions and Selections:

Foreign Applicants
Consideration of foreign student applicants is limited to those with a permanent resident visa.

All Other Applicants
United States citizens submit applications to specific RSTE programs. Each program is responsible for selections from qualified applicants by an Admissions Committee and a defined process.

All applications must be received by February 1 preceding the academic year beginning in August.

Faculty committees make selections from each program. Interviews are required for selected applicants.

Upon acceptance, a background check must be completed at the student's expense.

Financial Assistance
Financial aid, loans, and scholarship application questions should be directed to the Financial Aid Office located in Student Services.

Scholarship Policy/Procedure
The UNMC Division of Radiation Science Technology Education (RSTE) affirms its desire to create an environment for students that is fair and responsible. It is the policy of RSTE to administer all of its educational programs in a manner which does not discriminate because of an individual’s race, color, sex, religion, national origin, age, disability, marital status, sexual orientation, or political affiliation. Most financial aid provided to students at UNMC is coordinated by the Office of Financial Aid. Many students qualify for a combination of scholarships and need-based assistance. Each program within the division has a scholarship committee (membership determined by the individual's program), which will annually review the scholarship monies available and make recommendations for the awarding of such monies to the Office of Financial Aid. Categories of criteria for scholarships will include the following:

1. Awarded solely on the basis of academic excellence (GPA), within the professional studies.
2. Awarded on the basis of academic excellence (GPA), based on all hours attempted within a university setting.
3. Awarded on the basis of financial need (as determined by the Office of Financial Aid.)
4. Awarded on the basis of a combination of 1, 2, and 3.

Professional Development
The RSTE programs provide an integrated academic, laboratory and clinical curriculum that involves approximately 40 hours per week. It is expected that students consider participation in clinical procedures as an educational opportunity to increase their level of clinical competency. It is also expected that students consider their academic course work as an educational opportunity to increase their knowledge base.
Because programs accommodate students with a variety of levels of preparation, each program faculty has discretion in scheduling and accounting for students’ activities to achieve academic and clinical competency. The scheduled classes, labs, and clinic assignments will not exceed 40 hours per seven day week.

**Attendance in Class and Lab**

Each student is required to attend all classes, lectures, lab practicums, and clinical assignments unless specified differently by the individual instructor of each class in which he/she is enrolled and/or as directed by the program director. If it is necessary for a student to be absent, the instructor, supervisor, and/or program director must be notified, in advance and in writing, if possible.

**The student is responsible for arrangements to make up clinical time, assignments or tests missed.**

Failure to comply with attendance requirements may result in corrective action.

In most situations, there will be no make-up examinations or classes except in emergency cases, and these must be approved by the program director.

Based on the program faculty’s discretion after individual evaluation of academic and clinical competency, students’ clinical schedule may be adjusted to accommodate participation and enrollment in required or optional/additional relevant courses or to compensate for advanced standing credit for specific curriculum content areas.

**Guidelines for Clinic**

**Unexcused Absences**

1. Clinical schedules vary from program to program. In all cases of absence, the program director/clinical coordinator, and the clinical supervisor of the assigned rotation must be notified before the assigned time. Failure to notify the program director and clinical supervisor will result in an unexcused absence. An unexcused absence will result in a written reprimand/warning. A second unexcused absence will result in the student being put on academic probation as defined by the terms of the clinical affective evaluation. A third unexcused absence can result in dismissal from the program as defined by the terms of the clinical affective evaluation.

**Tardy Policy**

2. **Tardiness will not be tolerated.** Three recorded tardies will result in eight hours leave being charged against the student’s total leave time. Tardiness in excess of 10 minutes will need to be made up at the end of the day. A fourth tardy will result in an additional 8 hours of leave time being charged. If a student has a fifth tardy, the student will be put on academic probation defined by the terms of the clinical affective evaluation and will follow the terms of the probation which could lead to failure of the clinical course and dismissal.

3. Lunch periods will be 30 minutes duration, unless otherwise specified.

4. One break of 15 minutes may be allowed at the discretion of the supervising technologist/therapist for every four hours of clinic time. The time in clinic may not be shortened, or lunch hours lengthened, by omitting break periods.
5. The room or clinical assignments will be maintained and posted. Students are expected to check with their clinical instructors for additional or temporary assignments.

6. All students leaving the department or assigned area during the clinical day must have the approval of the Program Director and/or the supervising technologist/therapist with whom they are working.

7. All students must check with the clinical supervisor (or designee) or the technologist/therapist to whom they are assigned, before terminating the clinical day.

8. Radiography students unable to attend a weekend clinical assignment are responsible for trading that day with another student. If unable to attend a weekend clinical rotation due to illness or an emergency, radiography students must notify the clinical supervisor in diagnostic radiology before their assigned shift. As stated in Guideline #1, the program director/clinical coordinator and the clinical supervisor of the assigned rotation must be notified. The same rule applies if the student will be tardy. All absences from clinical rotations will be deducted from the student’s personal time.

9. For extenuating circumstances, students may request a leave of absence. The faculty will review each case individually. The student will receive their decision in writing.

10. RSTE faculty reserves the right to request medical or other documentation for any said absence.

**Student Leave Time:**

**Personal Time**

Students enrolled in the Division of RSTE are given 16 hours of leave time for personal affairs each semester, or a total of 48 hours for 3 semesters & 32 hours for 2 semesters per academic year. It is intended to provide necessary time for planned or unplanned events without jeopardizing the student’s attendance record. Regarding the use of student leave time, the following guidelines must be followed:

1. Unused time allotted is not transferable to a successive year.
2. Allotted hours may be used for such things as illness, funerals, medical and dental appointments, job interviews, or vacations.
3. All leave time for reasons other than illness must have prior approval of the program director.
4. Students taking more than the allotted number of hours will be required to make up the time according to the discretion of the program director.
5. If there is unauthorized absenteeism, the student will be dismissed from the program. (See Attendance)
6. A student may be required to furnish satisfactory medical proof of illness, disability or dental work.
7. Students must contact the person in charge of the assigned clinical area and/or the program director 30 minutes prior to time assigned for arrival if they are unable to attend the scheduled day unless directed otherwise by their program director.
8. It is recommended that suspected and confirmed pregnancy be reported to the program director. Time lost due to pregnancy must be made up according to the decision of the program director based on the Radiation Protection and Pregnancy Policies contained in this document.
9. Dental appointments, medical examinations, or any other appointment that cannot be made during a weekend or evening, should be scheduled on a day off or late in
the afternoon so as not to interfere with scheduled clinic rotations. Such time away from clinic will be counted against the 48 hours of leave time.

10. Absenteeism resulting from inclement weather will be deducted from leave time. The only exception to this will be in the event that public media broadcasts indicate closure of UNMC clinics.

11. Full-time students may request up to five days of funeral/bereavement leave in the event of the death of an immediate family member. Documentation may need to be provided upon request.

**Compensation Time Guide**
Provision of compensation time is intended to ensure fair, uniform, and impartial treatment for all students. Students may voluntarily choose to spend additional authorized time participating in clinic procedures over and above their scheduled hours as long as the student continues to perform in the student capacity, including direct supervision and holding only student clinical responsibilities. The following guidelines have been established to outline the procedures regarding compensation time.

**Compensation time is earned:**
1. Whenever patient responsibilities arise and a supervisor authorizes the student to stay later than normally scheduled clinic assignment.
2. On pre-approved scheduled days or times when there is increased patient workload.
3. Attending professional lectures and meetings.

**How compensation time is recorded:**
1. Compensation time slips are available upon request.
2. Compensation time slips must be completed, signed by supervising technologist therapist, and given to the clinical coordinator or program director.
3. Compensation time earned will be recorded in the same account as personal time off. **Students may not exceed 48 hours in that account.**
4. Students wishing to bank hours beyond the 48 granted each year must submit a written request to the Program Director, who in turn will present it to the Program Director’s Committee. The Committee will base its decision on the circumstances described in each individual request. The Program Director will mail an official letter of approval or denial to the student.

**How compensation time is used:**
1. Compensation time may be used the same way as leave time.

**Personal time for professional meetings:**
The RSTE Division supports participation in professional organizations relevant to the student’s professional growth and development. Therefore, students may qualify for time for documented attendance and involvement in these activities.

A. RSTE students will be given two hours of personal time per one hour of lecture when attending approved continuing education events at the district or local level. The student is required to complete a compensation time form (see attached). This completed form must be delivered to the program director for documentation.

RSTE students participating in professional conferences at state (i.e., NSRT, NSUS, etc) and national (i.e., ASRT, RSNA, SNM, SDMS, etc.) level will not be awarded compensatory time, but will be excused from clinical rotations.
**Vacation:**
The University of Nebraska Medical Center and the program directors will normally govern scheduled vacation periods (see Academic Calendar).

Radiation Science Technology Education students traditionally have two weeks of vacation during the winter holidays and one week during the spring semester.

Additional holidays to be observed are:

<table>
<thead>
<tr>
<th>New Year’s Day</th>
<th>Labor Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Luther King, Jr. Day</td>
<td>Thanksgiving Day &amp; day after</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>Christmas Day</td>
</tr>
<tr>
<td>Independence Day</td>
<td></td>
</tr>
</tbody>
</table>
Compensation Time Form

Name______________________________________________ Date _____________________

Number of illness hours used:__________________ (No signature required*)

*The student must complete a Compensation Time Form for sick time and may be required to submit a physician’s appointment record as documentation for missed time.

** Earned: **

  Date & # of Hours Earned in Clinic  
  Work Area  
  Technologist/Therapist Signature  

** Used: **

  Date & # of Hours Used in Clinic  
  Rotation Area  
  Technologist/Therapist Signature  

** Compensation time must be pre-approved by the area supervising technologist or clinical education supervisor and their signature is required.
Supervision of Students:

Clinical Supervision of Students
All RSTE students must have adequate and proper supervision during all clinical assignments as specified by individual institutional, program, and accreditation policies. The following policies and procedures apply to UNMC clinical assignments for students, technologists/therapists, and evaluators.

Clinical Evaluation
In a general sense, the duties and responsibilities for clinical evaluators in the Radiation Science Technology Education Programs are to:

1. Evaluate students’ required clinical competencies and affective behavior in the clinical setting.
2. Supervise imaging modalities students’ critiques of films and determine the necessity of repeat procedures.
3. Provide direct supervision and assistance for all repeat procedures.
4. Provide direct supervision for all nuclear medicine technology students’ injections of radioactive pharmaceuticals for all nuclear medicine procedures.
5. Complete appropriate Clinical Competency Evaluation forms and return to the clinical instructor or program director.
6. Provide documentation of any unusual, positive, and/or negative incidents involving the student’s performance of clinical objectives or competencies that occurred during the assigned clinical rotation to the clinical instructor or program director.
7. Intervene when a critical error appears imminent and offer corrective instruction or demonstration before proceeding with procedure.

Policy:

Supervision of Radiation Science Technology Students: Students must have adequate and proper supervision during all clinical assignments, which would include direct supervision until specific competency is established, thus allowing the student to perform under indirect supervision. The following conditions constitute direct supervision.

Radiography Procedure:
1. A staff radiographer reviews the request for the radiographic examination (A) to determine the capability of the student to perform the examination with reasonable success; or (B) to determine if the condition of the patient contraindicates performance of the exam by the student.
2. If either of the above determinations are questionable or negative, the staff radiographer should assist the student with the procedure in the radiographic room; otherwise, the radiographer’s presence is acceptable.
3. The staff radiographer checks and approves the radiographs prior to the dismissal of the patient. A radiologist or a qualified radiology resident’s judgment may supersede this provision.
4. Once a competency is established, a student should be under the supervision of a staff radiographer on the premises in the vicinity of the radiographic area and available for immediate assistance to the student.
Repeat Examinations Procedure (Radiography):
Exams performed by students that should be repeated must be checked by a
radiographer prior to the repeat examination. The repeat radiographic exam will be
performed while the radiographer is present and with the student, regardless of the
student’s competency level.

The following guidelines also apply:

1. Students assigned to a room are responsible to the certified or registered
technologist working in that room.
2. Certified or registered technologists assigned to a room or specified area are
directly responsible to the program director for the conduct of their students.
3. All problems should be reported to the program director.
4. Students are encouraged to consult with the program director concerning
departmental or personal problems at any time.
5. A repeat evaluation form should be submitted with each repeat examination. These
forms can be found in the student Clinical Instruction Handbook as well as in the
primary clinical areas.

Nuclear Medicine Technology Policy:

Supervision of Nuclear Medicine Technology Students: Students must have adequate
and proper supervision during all clinical assignments. The following conditions
constitute direct supervision:

Procedure:
1. A staff nuclear medicine technologist is responsible for determining the degree of
student participation in diagnostic nuclear medicine procedures.
2. A nuclear medicine physician and/or technologist is responsible for determining the
degree of student participation in nuclear medicine therapeutic procedures.
3. A staff nuclear medicine physician and/or technologist is responsible for determining
the degree of student participation in quality control procedures, phlebotomy,
intravenous injections of radiopharmaceuticals, in vitro procedures, and patient care.

Radiation Therapy Policy:

Supervision of Radiation Therapy Technology Students: Students must have adequate
and proper supervision during all clinical assignments. The following conditions constitute direct supervision:

Procedure:
1. A staff radiation therapist is responsible for determining the degree of student
participation in procedures using external beam equipment, simulator, and
brachytherapy radioactive sources.
2. A dosimetrist and/or physicist is responsible for determining the degree of student
participation in dosimetry procedures.
3. A staff radiation therapist, nurse, or radiation oncologist is responsible for
determining the degree of student participation in consult, physical examination,
patient care, and follow-up procedures.
Diagnostic Medical Sonography Program Policy:

Supervision of Diagnostic Medical Sonography Students: Students must have adequate and appropriate supervision during all clinical assignments. The following conditions constitute adequate and appropriate supervision.

Procedure:
1. During the fall semester, direct one-on-one supervision with a staff sonographer will be provided to the student for all examination procedures regardless of type of exam or degree of difficulty. One-on-one supervision involves having a staff sonographer present during the entire procedure if a student is observing or performing an examination.
2. During spring semester, students will receive one-on-one supervision for examination procedures which, in the opinion of the supervising staff sonographer, are beyond the student's capacity to perform without full supervision. If a procedure is determined to be within the student’s capacity to perform, partial direct supervision will be provided to the student. Partial direct supervision involves periodic checks on the student’s progress during an exam and assistance with the exam as requested by the student or at the discretion of the sonographer.
3. During the summer semester, students will receive one-on-one, partial direct, or indirect supervision depending on the student’s capacity to perform an examination. If indirect supervision is deemed appropriate by the supervising staff sonographer, the student may perform the examination in its entirety without sonographer supervision. Sonographer assistance will be available at the student's request. Students must review their films and case with a sonographer and have the sonographer initial the history form. In such cases, the student must inform the radiologist in charge, that the exam was performed without the supervision of a staff sonographer. A staff radiologist or resident will then scan the patient.

Student Authorship:

Policy for Authorship of Student/Scientific Papers and/or Presentations
1. It is a tradition and common accepted practice amongst academic institutions that scientific papers and posters submitted for consideration of publication or presentation include as the last author the student’s advisor, program director, professor, department chairperson, or any other similar individual that had a direct relationship to the student and the material being presented.
2. The above individuals could elect not to have their name listed as a coauthor. Reasons for this possibly would include the following.
   a. The presentation was of such inferior quality that the above individual did not wish to be identified with the presentation.
   b. The sponsors felt the student(s) accomplished totally independent from them and the institution and should submit it strictly under their name(s).

Graduation Requirements:
The Bachelor of Science Degree in Radiation Science Technology will be awarded under the following conditions only:
1. Student must have a cumulative grade point average no lower than 2.0.
2. Student must have satisfactorily completed all required courses.
3. Student must have fulfilled all UNMC financial obligations (e.g., tuition).
4. Student must have all excessive leave and non-attended time made up.
5. It is the student’s responsibility to apply for the degree BEFORE THE POSTED DEADLINE. Applications can be made online or in person at Student Services/Academic Records.

Graduation with Honors:
Graduation with honors may be conferred upon individuals who complete a minimum of 36 hours at the University of Nebraska Medical Center.

The student must have a minimum cumulative grade point average of 3.5 for those credit hours specified by his/her professional program to be eligible for consideration for graduation with honors. A 3.5 GPA must have been maintained in the 36 semester hours of prerequisites. Awarding of degrees with honors will be based on grade point average.

Three categories of honors and minimum GPA’s are as follows:
- Highest Distinction 3.85
- High Distinction 3.70
- Distinction 3.50

No more than 20% of each graduating class will be eligible for graduation with honors. Within this 20%, the following percentages of students may receive the indicated designations for honors:
- 2% Highest Distinction
- 8% High Distinction
- 10% Distinction

The RSTE Honors Committee will make the final decision. It is comprised of the Division of RSTE Program Directors, Medical Advisors, and the Associate Director. Their decisions are final. The Associate Director will be responsible for notifying the SAHP office and the graduates.

Withdrawal from a Program:
In the event a student finds it necessary to withdraw from his/her program in the Division of Radiation Science Technology Education, the following process must be followed to leave in academic good standing:

1. Any student wishing to withdraw from the program must state the reason for withdrawal in a letter of resignation addressed to the respective program director.

2. Once a letter of resignation has been signed and submitted, the student may not re-enter the program regardless of enrollment status with UNMC Academic Records/Student Services. Resignation cannot be effective until the withdrawal forms are properly completed and signed by the proper individuals. It is the student’s responsibility to complete the formal withdrawal process and forms (including financial obligations) through UNMC Student Services when leaving the program. However, dismissal will be instituted by the program if a student fails to attend classes for three consecutive weeks without receiving prior approval from their respective program director.
SECTION III

PROFESSIONAL CONDUCT

Professional Conduct:

Accidents/Incidents
As general policy, RSTE students will comply with the policies and procedures with the clinical site at which they are assigned. It is the policy that there be written reports of all unusual incidents/accidents.

An incident is an unusual occurrence which is not consistent with the routine operation of the institution or clinical rotation which may or did cause harm, involves possible negligence, requires some immediate consideration or action by a supervisor.

A student enrolled in a program in the Division of Radiation Science Technology Education is expected to provide prompt, complete and accurate written documentation of the details related to any accidents/incidents, thus enabling corrective actions and/or programs for prevention.

All accidents/incidents must immediately be reported to the technical supervisor or immediate person in charge. Proper report forms must be completed, and copies will be sent to the appropriate clinical site personnel and program officials. Incident reports are available in the Associate Director’s office. The program adheres to the Infection Control Policy for University Hospital and Clinics. Students with signs and symptoms of an infectious process should report immediately to the program director for appropriate referral.

Communicable and Contagious Diseases
As part of the traditional ethics of medical practice, physicians and students accept an obligation to take necessary personal risks in order to provide adequate care for patients. Thus, no faculty member, resident, or student at the University of Nebraska College of Medicine and School of Allied Health Professions may refuse to provide care to a patient on the grounds that the patient has a contagious disease. The student will adhere to the UNMC policy and procedure manual (located in the supervisor’s office) regarding the Infection Control Policy, which includes specific policies concerning: guidelines for prevention of puncture injuries, hand washing, patient isolation, and disposal of supplies and equipment used for isolation patients.

Blood Borne Pathogens Exposure Plan for Students
(also listed under Emergency Procedures)

Any student enrolled in educational programs at UNMC may come in contact with blood or body fluids from sources which may represent a risk to the student. All educational programs should include explanation of the nature of that risk. Exposure occurs when needles or other sharp instruments contaminated with blood or body fluids injure an individual or when blood or body fluids are splashed in such a way as to contact mucous
membranes, eyes or skin which is injured in such a way as to allow blood or body fluids to come in contact with the blood stream of the injured person.

- All blood and body fluid exposures are to be reported immediately to The Nebraska Medical Center Employee Health, located in Clarkson Hospital lobby next to the gift shop, or by person/phone.
- **REPORT ASAP - High-risk HIV exposures need post-exposure prophylactic (P.E.P.) medication begun within the first 1-2 hours after exposure!**
- **Contact Numbers Following Exposure:**
  (Pager# - 24 hours/day)
  On campus: *9-888-6824
  Off campus: 888-6824
  Out of area code: 1-402-888-6824
  Employee Health: 552-3563  Hours: 7:00 a.m. - 4:30 p.m. Mon-Fri

Student Health will cover the cost of titers for needle sticks only. Any additional cost incurred for further treatment must be submitted to the Student Health Center.

**Off Campus Needle Sticks:**
Students must call The Nebraska Medical Center Employee Health at the above number ASAP and report to the nearest emergency room for appropriate needle stick procedures. On the next workday, please call Lorrie Skow in the Student Health office at 402-559-5158 with information regarding your ER visit and Student Health will cover the cost of the visit.

**Venipuncture and Radiopharmaceutical Administration (NMT)**
1. Students will follow instructions for venipuncture and radiopharmaceutical administrations as implemented by the Radiation Safety Officer of the clinical affiliate.
2. NMT students may perform venipuncture and radiopharmaceutical administrations at UNMC and other affiliations if permitted by the health care facility.
3. Gloves will be worn whenever a venipuncture or radiopharmaceutical injection is performed.
4. Gloves, lab coats and eye protection will be worn whenever handling body fluids or radioactive substances.
5. Syringe shields will be used when injecting radiopharmaceutical.
6. Lead-shielded vials and syringe shields will be utilized when preparing and dispensing radiopharmaceutical.

**Radiation Protection**
It is each student's responsibility to adhere to the following guidance for radiation protection:
1. Students must be acquainted with the uses of radiation and protection criteria. These are found in the UNMC Radiation Safety Manual available in program director's offices for reference.
2. The principles of decreased time and increased distance and shielding shall be employed when working with radiation.
3. The spread of any accidental contamination from radioactive materials will be decreased by frequent personal monitoring and hand washing.
4. Radiopharmaceuticals must be kept in lead shields until placed in a syringe shield for injection into the patient (Nuclear Medicine Technology).
5. Radiation exposure is measured by film badges and finger TLD rings, (Radiation Therapy and Nuclear Medicine Technology); therefore, they must be worn at all times within the Department (NMT) or for all brachytherapy implant procedures (RTT). Film badges are to be worn at the waist and finger TLD rings on the dominant hand. It is the student's responsibility to exchange badges and rings on a quarterly basis with person designated by the RSO for each program.

6. If your film badge or finger TLD ring is lost or left where it can be exposed unknowingly, contact the respective program director immediately.

7. Students are responsible for bioassays for the presence of I-125 or I-131 in the thyroid at appropriate times during their clinical experiences (Nuclear Medicine Technology).

8. If a student becomes pregnant, she is encouraged to voluntarily consult with the program director concerning the most appropriate procedure to assure that exposure to the fetus is less than 0.5 rem (refer to Pregnancy Policy below).

Pregnancy

The pregnancy policy is a voluntary program intended to provide safety for pregnant students and their fetus who are considered occupationally exposed to ionizing radiation. In the event of a suspected or confirmed pregnancy, it is the responsibility of the student to advise her program director in writing of her condition. Pregnancy will not affect the student’s enrollment in the academic courses in the program. However, due to the physical requirements placed upon the student in the clinical courses and assignments, and in order to comply with 180 NAC 004.13 (10 CFR Part 20.1208) to keep the radiation exposure to the fetus as low as reasonably achievable (no more than 500 mrem during the entire gestation period), the following procedures will apply:

1. The student may voluntarily report suspected or confirmed pregnancy to the program director. At that time the UNMC/The NE Med Ctr policies and procedures and the RSTE Student Policies and Procedures Manual pregnancy policy will be reviewed with the student. Once the student has elected to declare suspected or confirmed pregnancy, the student should:

2. Complete the form “UNIVERSITY of NEBRASKA MEDICAL CENTER DECLARATION OF PREGNANCY” and forward it to the Radiation Safety Office. See page 46.

3. The Radiation Safety Office will determine the estimated radiation dose from time of conception to the date of declaration based on dosimetry records and calculate the permissible remaining dose to the embryo/fetus for the remainder of the pregnancy. See page 46.

4. Upon review of the findings and recommendations of the Radiation Safety Officer or Medical Radiation Physicist, clinical assignments will be reviewed. Clinical assignments will only be altered if the fetus received the maximum permissible dose as stated by 180 NAC 004.13 (10 CFR Part 20.1208). Any clinical competencies not completed for reasons related to pregnancy must be successfully completed prior to graduation.

5. Provide the program director with written indication of intent to
   a. continue in the program or
   b. take a medical leave of absence with intent to complete the program (form available in Academic Records) or
   c. withdraw from the program (form available in Academic Records).
6. The student should provide the program director with written consent from her physician providing medical advice for
   a. continuing in the program as a full-time student, and/or
   b. any limitations placed upon the student while enrolled in the program.
UNIVERSITY OF NEBRASKA MEDICAL CENTER

DECLARATION OF PREGNANCY

<table>
<thead>
<tr>
<th>Name of Individual:</th>
<th>Social Security #:</th>
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<table>
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<tr>
<th>Date of Conception (month/year):</th>
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By providing this information to the Radiation Safety Officer, in writing, I am declaring myself to be pregnant as of the date shown above. Under the provisions of 180 NAC 004.13 (10 CFR Part 20.1208), I understand that my exposure will not be allowed to exceed 5 mSv (500 mrem) during my entire pregnancy, from occupational exposure to radiation. I understand that this limit includes exposure I have already received. If my estimated exposure since the above date of conception has already exceeded 4.5 mSv (450 mrem), I understand that I will be limited to no more than 0.5 mSv (50 mrem) for the remainder of my pregnancy. If I should find out that I am not pregnant, or if my pregnancy is terminated, I will inform my immediate supervisor as soon as practical.

<table>
<thead>
<tr>
<th>Signature of Individual:</th>
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<table>
<thead>
<tr>
<th>Department:</th>
<th>Zip Code:</th>
<th>Extension:</th>
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<tr>
<th>Signature of Immediate Supervisor:</th>
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Name & Title of Immediate Supervisor:

RECEIPT OF DECLARATION OF PREGNANCY

<table>
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<th>Name of Supervisor:</th>
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<tr>
<th>Name of Declared Pregnant Worker:</th>
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</table>

I have received notification from the above named woman that she is pregnant. I am enclosing a copy of Nuclear Regulatory Commission Regulatory Guide 8.13, Revision 3 “Instruction Concerning Prenatal Radiation Exposure”. I have evaluated her prior exposure and established appropriate limits to control the dose to the developing embryo/fetus in accordance with limits in 180 NAC 004.13 (10 CFR Part 20.1208). She should avoid substantial exposure variations and try to maintain a uniform monthly exposure (1/e. 50 mrem/month).

<table>
<thead>
<tr>
<th>The dose to the embryo/fetus during the entire pregnancy is limited to: 500 mRem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated dose from time of conception to date of declaration: mRem</td>
</tr>
<tr>
<td>Remaining dose to embryo/fetus for the remainder of pregnancy: mRem</td>
</tr>
</tbody>
</table>

Signature of Radiation Safety Officer:

Date Signed:
**Chemical Dependency:**

It is the position of UNMC that chemical dependency is a disease that can endanger the health and well being of students, employees and faculty and can have a negative effect on the public they serve. UNMC advocates treatment and rehabilitation for affected students, employees and faculty in a manner that first protects the public, while allowing a reasonable opportunity for recovery and re-entry into the workplace/classroom.

Chemical dependency is recognized as a disease and an employee relations issue and will be administered from this philosophy and in accordance with all local requirements of state and federal law.

UNMC does not illegally discriminate in its academic program or employment practices against individuals who are in recovery from chemical dependency. UNMC takes a community leadership role in health care professional education, research and public education about substance use, abuse and dependency.

**Procedures:**

1. Students, employees and faculty who recognize a problem related to their alcohol or drug use may voluntarily seek confidential assistance through Student Counseling Services or the Faculty/Employee Assistance Program (FEAP). Exceptions to confidentiality may include situations where there is a suspicion of danger to self or others.
2. Students, employees and faculty identified for mandatory referral to the FEAP or Student Counseling shall be those who demonstrate the following behaviors found to be related to alcohol or other drug use.
   - A pattern of poor job or academic performance.
   - Disciplinary problems such as absenteeism and tardiness.
   - Violations of the law that impact job performance.
   - Diversion of controlled substance.
   - Other acts which violate the UNMC substance abuse policy (standards of conduct for employees and students regarding alcohol and drugs).
3. When a student, employee or faculty member is aware of behavior that is consistent with impairment as outlined in procedure 2 above, these individuals shall immediately report this behavior to an appropriate supervisor. Concerns regarding student behaviors outlined in paragraph 2 above shall be reported immediately to an appropriate faculty or college administrator who is designated by the Dean. Questions about the appropriate course of action should be directed to Student Counseling or FEAP.

**Student Procedures for Mandatory Referral**

1. Each college dean will designate an administrator or faculty member to coordinate the student’s referral to Student Counseling Services for chemical dependency assessment, treatment and aftercare. The Dean’s designee will monitor the student’s progress with respect to fitness to continue in the academic program, and may require the student to enter into contract agreements.
2. When a UNMC official (dean, department head, faculty and others who supervise students) has evidence of behaviors that impair academic or clinical performance listed in procedure 2, he or she should:
   - Document performance of behaviors.
   - Report behaviors to the dean’s designee, who will then confront the student regarding the observed behavior.
c. The dean’s designee will make a mandatory referral of such students to the UNMC Student Counseling Center for a required chemical dependency assessment. The student counseling staff will report the results of the initial assessment to the designated official in the respective college or academic department. Student counseling will make referrals to other treatment agencies when further chemical dependency evaluation and treatment are indicated.

3. When a student is suspected of diversion or intoxication or is posing an immediate danger to himself, herself or others, the Dean’s designee will follow the procedures outlined below.
   a. Remove the student from the academic or clinical setting as discreetly as possible. Security officers may be called if needed.
   b. Inform the student of the behaviors observed and that he or she will not be allowed to remain on the premises, due to these behaviors.
   c. Escort the student to Student Health for appropriate evaluation and testing and inform the physician on duty of the behaviors exhibited by the student that led others to believe he or she was impaired.

4. Refusal to comply: If the student refuses to comply with the college official’s request, inform the student of the following options:
   a. Be taken home by a cab at the student’s expense.
   b. Have an official call a friend or family member to take the student home.
   c. Contact Security in the case of belligerent behavior, or if the student exhibits behavior dangerous to self or others.
   d. Refusal to comply with official requests will result in a written incident/occurrence report, which will be forwarded to the dean for possible disciplinary action up to, and including termination/dismissal.

In most circumstances, the college official should not attempt to prevent the student from leaving the premises if the student insists on doing so. In such cases, college officials will document that options a. and b. were offered and that the student refused these options.

5. When a UNMC official other than the dean’s designee is involved in managing an emergency situation as outlined in (¿), he or she should document the incident and actions taken and forward this information to the dean’s designee as soon as possible.

6. Faculty and administrators seeking information on mandatory student referrals should contact Student Counseling or the college dean’s office.

**Employee and Faculty Procedures for Mandatory Referral**

When a manager/supervisor identifies an employee or faculty member to be impaired so that he or she is incapable of performing the requirements of the job adequately or safely, the manager/supervisor will follow the guidelines below. These observations may include, but are not limited to, the smell of alcohol or other substance on the breath or clothing, erratic or unusual behaviors and/or deterioration of physical appearance.

1. Document the performance or behaviors in specific terms.
2. Confront the employee regarding documented behaviors.
3. Make a mandatory referral of such employee or faculty member to the FEAP for a required mental health/chemical dependency screening evaluation.
4. FEAP will report the assessment of the employee’s fitness for duty, or their recommendations for further treatment and/or the need for assessment, treatment or recovery contracts to the manager/supervisor.

5. When the employee or faculty member is suspected of diversion, suspected of intoxication or is posing an immediate danger to self or others, the manager/supervisor will follow the guidelines below:
   a. Remove the employee or faculty member from the work area as discreetly as possible.
   b. Inform the employee or faculty member of the following:
      - The observed behavior.
      - Due to the observed behavior, he or she will not be allowed to work.
      - Refusal to comply with the manager/supervisor’s requests may result in corrective action up to and including termination.
      - A written report documenting this incident will be completed.
   c. Escort the employee or faculty member to Employee Health (Emergency Department after hours). The manager/supervisor will inform the physician on duty of the behaviors exhibited by the employee that led others to believe he or she was impaired.

6. Students, faculty and employees who are of mandatory referral status due to chemical impairment will be required to sign written contracts stating the terms of assessment, treatment and ongoing recovery. Individuals of mandatory referral status who refuse to comply with contract requirements may be subject to further disciplinary action up to and including dismissal. When applicable, a report to the state Department of Health, Bureau of Examining Boards will be furnished.

7. Existing UNMC policies governing leave of absence for illness will be applied to those students, employees and faculty who may need time off for evaluation or treatment of chemical dependency.

8. Responsibility for any costs of evaluation, treatment or aftercare shall be borne by the student, employee or faculty member. Employee and faculty fitness-for-duty expenses shall be borne by the referring department. Radon testing will be paid from an established central fund. Some costs may be covered under health insurance.

9. Re-entry into the workplace/classroom following an absence for chemical dependency treatment or continuation of work/academic program during treatment will be coordinated by the FEAP or student counseling case manager. A re-entry agreement may place restrictions on the individual’s work, classroom, laboratory, clinical or clerkship activities that are thought to be in the best interest of the individual’s recovery and public safety. Students, faculty or employee participation in respective Student Counseling or FEAP recovery programs is a condition of continued employment or academic progress at UNMC. By law, individuals may still be subject to further evaluation, treatment and aftercare agreements. Episodes of relapse may be cause for disciplinary action which may include termination.

10. The Departments of Student and Employee Health are responsible for establishing urine and/or blood screening protocols for alcohol and/or drug, and for coordinating reporting procedures.

11. In compliance with federal confidentiality regulations, all records of students, faculty and employee involvement with Student Counseling or FEAP are kept confidential. Such records will be kept in the offices of Student Counseling, FEAP and/or Employee Health and will not become a part of the permanent student or employment record. Information from these records will be released only with the
individual’s written consent or as required by law. With a signed release, Student Counseling and FEAP will provide progress reports to college administrators or supervisors that are limited to the individual’s compliance, progress in rehabilitation and recommendation for returning to work or school.

**Diversion**

Diversion shall be defined as the theft of a controlled substance from any UNMC facility including off-campus sites and includes the following offenses:

1. **Diversion for own use:** When students, employees or faculty members are determined to have diverted drugs from a UNMC facility for their own use, they will be subject to immediate disciplinary action. Such disciplinary action will include a mandatory referral to Student Counseling or FEAP for mental health/chemical dependency assessment.
2. **Diversion for use by others:** Diversion for use by others or for resale will subject the individual to immediate disciplinary action under UNMC policies.
3. **Refusal to participate in evaluation, treatment and recovery agreements shall be cause for further disciplinary action up to and including dismissal.**
4. **Except for circumstances described in Section D. Below, an individual who has been determined to be chemically dependent, and has diverted the drug for personal use, may not face immediate termination/dismissal, but will be required to enter into a treatment and recovery agreement with student counseling or FEAP and satisfactorily complete the terms of this agreement. In any case, UNMC is required by law to follow drug enforcement procedures governing loss of controlled substances.**
5. **When a known harm occurs to others from an individual’s diversion of controlled substances, that individual shall face disciplinary action up to and including dismissal.**
6. **This policy is intended to be consistent with all other UNMC policies governing controlled substances.**

**Monitoring**

Under the following circumstances, students, employees and faculty members who are chemically dependent may be required to enter into a recovery contract. The terms of the contract may include drug screens, restrictions on clinical activities and/or close supervision:

1. **When a situation occurs such as described on page 49 of this document.**
2. **When they have transferred from an institution where they were under a recovery contract.**
3. **Their licensure or certification is currently restricted and/or they are on probation and/or they are participating in a state-authorized recovery program with the Department of Health, Bureau of Examining Boards of the State of Nebraska or any other state.**
4. **When a prospective employee has less than 2 years of sobriety, he or she may be subject to assessment by student counseling or FEAP. The need for contracting will be determined on a case-by-case basis.**
Dress Code
As representatives of the University of Nebraska Medical Center, School of Allied Health Professions, Departments of Radiology and Radiation Oncology, and Division of Radiation Science Technology Education, all students will dress in a professional manner, appropriate to the situation and according to the following guidelines:

1. RSTE Uniform Dress Code will apply at all clinical affiliate sites.
2. Uniforms must be neat and clean at all times.
3. Students must be in complete uniform while in their clinical rotations.
4. The Uniform Dress Code is as follows:
   a. Proper hospital name tag, film badge, and finger TLD rings, as required, must be worn at all times.
   b. Navy scrub pants and navy scrub shirt with or without navy scrub jacket, or solid white lab coat are acceptable for RSTE students. The RSTE Division patch must be worn on the left breast pocket of the outermost garment, including scrubs.
   c. Only solid white T-shirts or turtlenecks may be worn under scrubs. They will be tucked into the pants.
   d. Solid white T-shirts or turtlenecks may be worn in lieu of a scrub top. A navy scrub jacket or solid white lab coat must be worn with this top.
   e. Nuclear Medicine Technology students will wear a navy scrub jacket, or solid white lab jacket or solid white lab coat as protective clothing while working with radioactive materials.
   f. Program faculty will be responsible for determining if the student’s uniform falls within the Uniform Dress Code.
   g. It is recognized that occasionally students may have reason to submit a request to wear street clothes in the clinic. For compliance with the RSTE student dress code, students must request permission and/or guidance from their program director. In any event, it is expected that RSTE students will wear traditional conservative business attire under a solid white lab jacket or solid white lab coat. If you have questions regarding what is considered “traditional conservative business attire”, consult your program director.
5. General appearance and attire must be neat and clean at all times.
   a. Hair must be groomed.
      • Males may wear mustaches and beards neatly trimmed.
      • Hair worn longer than shoulder length must be pulled back to prevent interference with patient care.
   b. Closed-toed shoes with socks are required. Feet will be covered at all times with socks or nylons, as appropriate.
   c. Undergarments will not be visible or revealing.
   d. The wearing of scents (i.e., aftershave, cologne, perfume, etc.) is discouraged as a courtesy to sick patients, visitors and co-workers.
   e. Jewelry should be functionally appropriate and not excessive to the point that it distracts from the work environment or is dangerous to the employee and patient.
   f. Fingernails must be kept groomed.
      • No artificial fingernails or extenders are allowed
      • Natural nails are to be maintained at a short (1/4 inch or less) length.
      • If nail polish is worn, it must not be chipped or peeling.
g. The program director may use his or her discretion, based upon input from the clinical education site, on whether or not the piercing and/or tattoo is disruptive to the work environment. If the piercing/tattoo is deemed disruptive, then the student may be asked to remove or cover up the piercing/tattoo in question.

6. Students assigned to a surgery rotation will follow The Nebraska Medical Center surgical dress code policy.

**Equipment Use and Operation:**
The professions in Radiation Science Technology employ the use of highly specialized equipment. Any equipment failure or equipment that is not in proper working order must be reported immediately to the technical supervisor. Do not place any calls to equipment representatives. Do not attempt repair.

**Information to Patients and Confidentiality:**
Students must observe the same principles of confidentiality as do staff and employees. All students are required to be HIPAA compliant for the duration of their professional program. This compliance will be met during the orientation of the student to each professional program.

All patients have the right to expect that case discussion, consultation, examinations, and treatment will be conducted in a setting, which provides maximum privacy. Knowledge of patient information should remain confidential and not open to discussion in the hallways, cafeteria, elevators, and social situations outside the institution.

All records and charts of all departments are legal documents. Every precaution should be maintained to see that only proper personnel handle these reports.

Personal observations regarding patient's studies of images are never shared with patients or other non-department personnel. Requests for information should be referred to a physician. No information about a patient's care or an institution's affairs is to be repeated to anyone not directly involved in the situation.

**Professional Address**
Students are to demonstrate respect for patients and professional colleagues through the appropriate form of address.

**Rules of Address:**
1. Patients should be addressed with the titles Mr. or Ms. as appropriate.
2. Staff and faculty who hold doctoral degrees should be addressed as Doctor. Others should be addressed with courtesy titles as appropriate.
3. Technologists and students may be addressed by their first names. Slang names are discouraged.
4. Any uncertainty about the appropriate form of address should be resolved by asking the person involved how he or she prefers to be addressed.

**Professional Demeanor, Attitudes and Behaviors**
1. While in the hospital, students will not become loud, boisterous, argumentative, or discuss their personal and social life in the presence of patients.
2. Students will not sit on desks, tables, carts, and in wheel chairs during scheduled time in the clinic.
3. Students not assigned to clinic will not loiter, study, or visit the department in improper dress.

4. All private belongings will be kept in a designated area and will not be allowed to lie around the department.

**Sexual Harassment Policy**

See UNMC Student Handbook. All Radiation Science students should feel empowered to seek immediate assistance and/or guidelines when confronted with any situation involving this type of harassment.
SECTION IV

STUDENT AFFAIRS

Student Communication
Students must check the designated message centers, which include department bulletin boards, e-mail, mailboxes and BlackBoard announcements frequently for up-to-date information.

Student mailboxes are assigned, at no charge, and located in Wittson Hall. It is the student’s responsibility to check his or her mailbox regularly. Problems concerning mailboxes should be referred to Student Services. Do not have personal mail sent to you at the hospital. Use your residence address.

Student Employment Guidelines
Opportunities for student employment may exist in the clinic departments and may be initiated and/or discontinued as dictated by manpower needs.

1. Students may not take the place of regular staff in the clinical areas to which they are assigned. It is appropriate, however, for students to assume the responsibility for performing defined activities and tasks, with adequate direction and supervision, after demonstration of clinical competencies.
2. Students may be employed in a clinical setting outside regular educational hours, provided this work does not interfere with their academic responsibilities. Students must be paid for this work. In addition, student employment in the clinical setting is non-compulsory and is subject to standard employee policies.

Use of UNMC Telephones
1. Personal phone calls during clinic hours must be kept to a minimum.
2. No personal calls are to be received in the department unless there is an emergency.
3. When answering the telephone, always identify the department and give your name (e.g., Nuclear Medicine, Mary Smith speaking).
4. Telephone calls should be handled with willingness, tact, and courtesy.
5. No personal long distance calls are permitted on department telephones.
6. When the party is unavailable, suggest that you take a message. When taking messages, make sure they are clear and concise. Deliver messages promptly. Do not depend on others to deliver and relay messages.
7. Cell phone use is not permitted in clinic or in class.

Library Services
1. Students may use the Department Libraries for study and checking out books. The McGoogan library in Wittson Hall and the Training Lab (Nuclear Medicine Technology) are also available for student use.
2. All books and periodicals may be checked out for the period of time designated.
3. The personal collections of some faculty and staff may be made available for students’ use with permission and the understanding that any losses must be replaced by the Student. For assistance in using electronic reserves or journal access, please see your instructor or ask a librarian.
4. Copier services are available at the library for a small fee.
Parking
1. Parking facilities are available through UNMC Finance and Business Services.
2. Because of limited parking space, students are urged to adjust their time, so they are present at their clinical assignment at the designated starting time.

Smoking
This is a smoke-free campus. Smoking is permitted only in designated outdoor areas.

Personal Property
UNMC, the Department of Radiology or Radiation Oncology or your respective programs are not responsible for your valuable possessions. All valuables and money should be monitored closely by each individual.

Lost and Found
Anyone finding items not claimed must take them to the program director. For lost items, check with program director. If lost item hasn’t been turned in, please call the UNMC Security Office.
SECTION V
EMERGENCY PROCEDURES

Emergencies
Students are responsible for maintaining familiarity with the following attached UNMC Policies and Procedures for:

- Blood Borne Pathogens (see below) ......................... Page *9-888-6824
- Fire - See SAHP Policies for Students (Section F-1)....Ext. 9-5555
- Radiation Incidents ............................................. Ext. 9-6356
  - See SAHP Policies for Students (Section F-5)
- Tornado (see below)
- Severe Weather (see below)
- Earthquake (see below) ...................................... Ext. 9-7315
- Bomb Threat ..................................................... Ext. 9-5555
  - See SAHP Policies for Students (Section F-3)
- Code Blue .......................................................... Ext. 9-5555
- Code Green
- Non-Radioactive Hazardous Material Spills .......... Ext. 9-5555
  - See SAHP Policies for Students (Section F-5)

Blood Borne Pathogens:
Exposure Plan for Students - Blood Borne Pathogens
Any student enrolled in educational programs at UNMC may come in contact with blood or body fluids from sources which may represent a risk to the student. All educational programs should include explanation of the nature of that risk. Exposure occurs when needles or other sharp instruments contaminated with blood or body fluids injure an individual or when blood or body fluids are splashed in such a way as to contact mucous membranes, eyes or skin which is injured in such a way as to allow blood or body fluids to come in contact with the blood stream of the injured person.

- All blood and body fluid exposures are to be reported immediately to The Nebraska Medical Center Employee Health, located in Clarkson Hospital lobby next to the gift shop, or by person/phone.
- REPORT ASAP - High risk HIV exposures need post-exposure prophylactic (P.E.P.) medication begun within the first 1-2 hours after exposure!
- Contact Numbers Following Exposure:
  (Pager# - 24 hours/day)
  On campus: *9-888-6824
  Off campus: 888-6824
  Out of area code: 1-402-888-6824
  Employee Health: 552-3563 Hours: 7:00 a.m. - 4:30 p.m. Mon-Fri

Student Health will cover the cost of titers for needle sticks only. Any additional cost incurred for further treatment must be submitted to the Student Health Center.
Off Campus Needle Sticks:
Students must call The Nebraska Medical Center Employee Health at the above number ASAP and report to the nearest emergency room for appropriate needle stick procedures. On the next work day, please call Lorrie Skow in the Student Health office at 402-559-5158 with information regarding your ER visit and Student Health will cover the cost of the visit.

Tornado:
A Tornado Warning is issued by the National Weather Service when a Tornado has been sighted in the Omaha area. The Civil Defense sirens are sounded to alert the public. Follow your departmental plan. If no plan exists seek shelter in an interior windowless room, preferably on the lowest level of the building. The pedestrian tunnels on campus offer excellent protection. If you are caught out in the open, and there is no time to seek shelter inside, lie flat on the ground in a ditch or depression and cover your head. Do not try to outrun a tornado in your vehicle. Civil Defense sirens can be used to alert the public of other emergencies, so the nature of the emergency can be determined by listening to the radio or television.

Earthquake:
Policy
It is the policy of the University of Nebraska Medical Center to have a written plan which will be implemented in the event of an earthquake.

Procedure
UNMC is in a moderate earthquake hazard zone. Earthquakes are caused by the underground volcanic forces or the shifting of rock beneath the surface. They are unpredictable and may strike without warning. Earthquakes range in intensity from small tremors to severe shocks, and may last anywhere from a few seconds to as long as five minutes. Earthquake injuries usually result from falling debris rather than from the direct movement of the earth. Disruption in communication lines, light and power lines and sewer and water mains can be expected.

1. If an earthquake strikes when you are inside:
   • Stay inside.
   • Watch for falling plaster, light fixtures, glass, bookcases, etc.
   • Stay away from windows and mirrors.
   • Either crawl under a table or desk, sit or stand against an inside wall away from windows or stand in a strong inside doorway.
   • Do not use open flames during the tremor.
2. If an earthquake strikes when you are outside:
   • Avoid high buildings, walls, power poles and other objects that may fall.
   • Move to open areas away from hazards.
   • If surrounded by buildings, seek shelter in the nearest strong one.
3. If an earthquake strikes when you are in an automobile:
   • Stop in the nearest open area if possible.
   • Stay in the vehicle.
4. After the tremor is over:
   • Check for injured people. Do not move seriously injured people unless they are in immediate danger.
   • If you think the buildings may have been structurally damaged, evacuate.
• After-shocks can level severely damaged buildings. Do not use the telephone except to report an emergency. If a call is necessary, call the University Operator (dial 0). Be sure to give the operator your name, office location and telephone extension.
• Do not use plumbing or anything electrical (including elevators) until after the utility and electrical lines have been checked.
• Open doors carefully, watching for objects that may fall.
• Do not use matches or lighters. Watch for fires that may have started.
• Keep streets clear for emergency vehicles.
• Be prepared for additional earthquake shocks.

5. A Damage Assessment Team will be formed by Physical Plant to inspect all damage from the earthquake and determine priority of repair work needed. The team will include the Director of Physical Plant and the Chancellor or their designees. If any building receives structural damage, evacuate the building until the all clear is given by the Damage Assessment Team.

Structure damage (area involved, type and extent of damage) is reported until the all clear is given by the Damage Assessment Team.

Structure damage (area involved, type and extent of damage) is reported by the manager on duty to Physical Plant by phone, if possible. If phone system is interrupted, a verbal message is taken to Security Dispatch by the manager or his designee.

Weather Policies and Severe Weather Safety Plan

Severe Weather Safety Plan
The severe weather plan will be implemented whenever a severe thunderstorm warning, tornado watch, or tornado warning is issued for the Omaha area. Each department shall develop and maintain a specific plan that enumerates the department’s actions. Employees are expected to review both this plan and their specific department plans periodically.

Inclement Weather Policy
Official cancellations of clinical assignments and/or classes at UNMC due to inclement weather will be announced on the radio and TV. In the event of cancellation during the day because of weather, students will be notified by their program director. Students electing not to travel due to inclement weather conditions must contact their program director (or designee) and time will be deducted from their personal leave bank. Please note that closings at UNO or UNL are independent and do not affect UNMC.
The Radiography and Radiation Therapy Programs are accredited by the:

Joint Review Committee in Radiologic Technology
20 North Wacker Drive, Suite 900
Chicago, IL  60606-2901

The Nuclear Medicine Program is accredited by the:

Joint Review Committee on Educational Programs in Nuclear Medicine Technology #1
2nd Avenue East
Polson, MT  59680-2320

The Diagnostic Medical Sonography Program is accredited by the:

Commission on Accreditation of Allied Health Education Programs
35 East Wacker Drive, Suite 1970
Chicago, IL  60601-2208