

DELAWARE TECHNICAL COMMUNITY COLLEGE

NUCLEAR MEDICINE PROGRAM

PROGRAM MANUAL  
Class of 2016-2017

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Welcome to Delaware Technical Community College's Nuclear Medicine Program. The following Program Manual is provided to help you transition from the first to second year. While the first year provided a vast knowledge of supplementary math, science and support courses, your second year will consist both of clinical and didactic instruction.

Due to the unique clinical training of working in hospital laboratories with patients, radioactivity and departmental equipment, the responsibilities of the student are heightened. The design of this book will help you in this transition to become familiar with the Nuclear Medicine Department and the Nuclear Medicine program. It is your responsibility to adhere to these rules in order to offer competent and professional services to both the physicians and most importantly the patients.

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## COLLEGE MISSION STATEMENT

### DELAWARE TECHNICAL & COMMUNITY COLLEGE

#### MISSION STATEMENT

Delaware Technical & Community College is a statewide multi-campus community college committed to providing open admission, post-secondary education at the associate degree level. The College offers comprehensive educational opportunities that support economic development and are relevant and responsive to the needs of the community including career, general, developmental, and transfer education; workforce training; professional development; and lifelong learning. The College believes in the practical value of higher education as a means of economic and personal advancement. The College respects its students as individuals and as members of diverse groups and is committed to fostering student success. (Effective date: July 1, 2009)

#### MISSION GOALS

The College will achieve its mission through the goals listed below:

- Academic programs will prepare students for successful employment upon completion and/or transfer to a senior institution.
- Developmental education will prepare students in mathematics, reading, and writing to be successful in entry-level College courses and workforce training.
- Workforce training and professional development programs will prepare and support a competitive workforce.
- Personal enrichment programs will provide lifelong learning opportunities for the community.
- Programs, activities, and services will create a welcoming and inclusive environment that promotes respect for diverse cultures, backgrounds, and points of view.
- The College will provide an environment that cultivates student learning and success.
- Public and private resources will be sought, obtained, and utilized to advance the College Mission and Goals.

#### ADVISORY COMMITTEES

The College encourages the use of advisory committees to make sure that the programs are up to date. The committees are composed of altruistic, knowledgeable citizens with expertise in business, industry, government, education, and health-related fields. Committee members meet periodically with department chairpersons, instructors, and deans. They review curricula, arrange internships for students, and help the staff to assure that graduates will be fully equipped for immediate entry into career fields.

## **PROGRAM GOALS**

The goal of the DTCC Nuclear Medicine Program is to offer a comprehensive program to qualified students, who upon graduation with an Associate of Applied Science degree are prepared to sit for the examination administered by the Nuclear Medicine Certification Board and/or the American Registry of Radiologic Technologists and perform as entry level technologist.

### Nuclear Medicine Program Graduate Competencies (PGC's)

1. Integrate principles of theoretical knowledge and demonstrate entry-level skills pertaining to nuclear medicine in-vivo and in-vitro procedures, radiation safety, quality control, quality assurance, NRC regulations, patient care, radiopharmaceutical preparation and administration, instrumentation and medical informatics.
2. Perform all entry-level procedural computer analysis.
3. Exhibit professional behaviors, critical thinking and problem solving skills during the practice of nuclear medicine.
4. Abide by the profession's code of ethics as stated in the American Registry of Radiologic Technologists (ARRT) and Nuclear Medicine Technology Certification Boards (NMTCB).
5. Competently perform all in-vivo and in-vitro procedures.
6. Exhibit verbal, nonverbal, and written communication skills during patient care, research, and professional scope of practice.

## **CURRICULUM**

The following curriculum is delivered each year. All first year courses must be completed prior to the second year clinical internship. Course descriptions are published in the college catalog as well as distributed to each student prior to course commencement. The courses are sequenced to ensure a gradual progression in technical and clinical knowledge. Please note that the program major courses (NMT) may **not** be taken out of sequence.

### **Summer Semester**

SSC 100 First Year Seminar  
BIO 100 Medical Terminology  
CHM110 General Chemistry  
ENG 101 Critical Thinking and Academic Writing  
MAT 153 College Math & Statistics  
PSY 121 General Psychology

### **Fall Semester**

BIO 120 Anatomy & Physiology I  
CHM 111 Intro to Organic & Biochemistry  
NMT 101 Patient Care for the NMT  
PHY 112 Physics for Allied Health

### **Spring Semester**

BIO 121 Anatomy & Physiology II  
ENG 102 Composition and Research  
NMT 121 Computers and Informatics  
NMT 115 Intro to Nuclear Medicine with Clinical Lab  
NMT 222 Nuclear Physics

### **Summer Semester**

NMT 201 Nuclear Medicine I  
NMT 224 Radiopharmacy & Pharmacy  
NMT 295 Clinical Internship I  
SOC 213 Ethical Issues in Health Care

### **Fall Semester**

NMT 202 Nuclear Medicine II  
NMT 211 Scan Reading I  
NMT 223 Nuclear Medicine Instrumentation  
NMT 296 Clinical Internship II

### **Spring Semester**

HLH 215 Cardiovascular Monitoring  
NMT 203 Nuclear Medicine III  
NMT 212 Scan Reading & PET/CT  
NMT 226 Radiobiology & Protection  
NMT 297 Clinical Internship III w/ CT

## **BOOKS**

Books are to be purchased through DTCC's bookstore prior to each semester. The books used for the Program Major courses are listed below. Support courses' book requirements will be announced by individual instructors.

Practical Mathematics in Nuclear Medicine Technology, 2<sup>nd</sup> Edition Patricia Wells  
Pub. Society of Nuclear Medicine

Nuclear Medicine and PET/CT, Technology and Techniques, 7<sup>th</sup> Edition, Paul E. Christian  
Pub. Mosby

Nuclear Medicine Technology Procedures and Quick Reference, 2<sup>nd</sup> Edition, Pete Shackett  
Pub. Lippincott, Williams & Wilkins

Radiopharmaceuticals in Nuclear Pharmacy and Nuclear Medicine, 3<sup>rd</sup> Edition, Richard Kowalsky  
Pub. American Pharmacists Association

Essentials of Nuclear Medicine Imaging, 6<sup>th</sup> Edition, Fred A. Mettler, Jr.  
Pub. Elsevier

Nuclear Medicine Physics- The Basics, 7<sup>th</sup> Edition, Ramesh Chandra, Wolters, Kluwer/Lippincott

Nuclear Medicine Instrumentation, 2<sup>nd</sup> Edition, Jennifer Prekeges, Pub. Jones and Bartlett

Computed Tomography for Technologists: A comprehensive text, 1<sup>st</sup> Edition, Lois E. Romans,  
Lippincott, Williams, & Wilkins



## **NUCLEAR MEDICINE ORGANIZATIONS**

Students are encouraged to become members of professional organizations.

Information will be provided by the Program Coordinator upon request. Students can apply for membership to the following professional organizations:

1. [Society of Nuclear Medicine](#)
2. [Delaware Valley Society of Nuclear Medicine Technology](#)
3. [Delaware Society of Radiology Professionals](#)
4. [American Society of Radiologic Technologists](#)
5. [Joint Review Committee in Nuclear Medicine Technology](#) – Accreditation Agency

## **REQUIREMENTS FOR GRADUATION AND REGISTRY ELIGIBILITY**

All academic requirements must be satisfied by each student. Students must maintain a grade of C (2.0) or higher in each course in order to qualify for graduation and the registry exam. Attendance is mandatory, no more than twenty percent of each didactic or clinical course can be missed. All required clinical competency procedures must be passed with a minimum of 75 percent. Additionally, all clinical hours must be completed prior to the beginning of the next semester. Any student who has a felony or misdemeanor charge and conviction on their record is required to disclose that information to the College.

Application for the boards will be verified by the program coordinator only after all designated diagnostic and therapeutic procedures are completed according to the ARRT requirements.

For ARRT board requirements please see attached link [www.arrt.org](http://www.arrt.org) and [New Innovations](#).

## Code of Ethics: For the Nuclear Medicine Technologist\*

***Nuclear Medicine Technologists, as Certificants of the health care profession, must strive as individuals and as a group to maintain the highest of ethical standards.***

***The Principles (SNMTS Code of Ethics) listed below are not laws, but standards of conduct to be used as ethical guidelines by nuclear medical technologists. These Principles were adopted by the Technologist Section and the Society of Nuclear Medicine at the 2004 Annual Meeting. They are standards of conduct to be used as a quick guide by nuclear medicine technologists.***

**Principle 1:** The Nuclear Medicine Technologist will provide services with compassion and respect for the dignity of the individual and with the intent to provide the highest quality of patient care.

**Principle 2:** The Nuclear Medicine Technologist will provide care without discrimination regarding the nature of the illness or disease, gender, race, religion, sexual preference or socioeconomic status of the patient.

**Principle 3:** The Nuclear Medicine Technologist will maintain strict patient confidentiality in accordance with state and federal regulations.

**Principle 4:** The Nuclear Medicine Technologist will comply with the laws, regulations, and policies governing the practice of nuclear medicine.

**Principle 5:** The Nuclear Medicine Technologist will continually strive to improve their knowledge and technical skills.

**Principle 6:** The Nuclear Medicine Technologist will not engage in fraud, deception, or criminal activities.

**Principle 7:** The Nuclear Medicine Technologist will be an advocate for their profession.

- located at [www.nmtcb.org](http://www.nmtcb.org)

### [ARRT Standard of Ethics](#)

Please see the following hyperlink:

<http://www.arrt.org/ethics/standardethic.pdf>

## **PROGRAM POLICIES**

The following policies have been established for the Nuclear Medicine Program. The purpose of establishing program policies is to:

1. Ensure a fair and equitable educational experience for all students.
2. Establish acceptable levels of professionalism.
3. Comply with accreditation requirements.

All students are required to become familiar with and comply with all policies contained in this manual as well as the DTCC Student Handbook. Failure to comply with Program policies will result in adherence to the [Discipline Policy](#). Students will be tested on the information in NMT295 Clinical Internship I.

## CLINICAL AFFILIATE INFORMATION

**Medical Director: Hung Q. Dam, M.D.**

### **Christiana Care Health System**

Cynthia Knotts, BS, CNMT  
Manager, Nuclear Medicine Dept.  
4755 Ogletown-Stanton Road  
Newark, DE 19805  
Telephone # (302) 733-1533 (Hotlab)  
Cardiac # (302) 733-1539  
Fax # (302) 733-1518

### **Wilmington Hospital (CCHS)**

Vaughn Brantley, CNMT, ARRT (CT)  
Senior Technologist, Nuclear Medicine Dept.  
501 W. 14th St.,  
Wilmington, DE 19801  
Telephone # (302) 320-2177  
Fax # (302) 320-4071

### **St. Francis Hospital**

Robert Stineman, CNMT, ARRT(R)(N)  
Supervisor, Nuclear Medicine Dept.  
7<sup>th</sup> & Clayton Streets  
Wilmington, DE 19805  
Telephone # (302) 421-4365  
Fax # (302) 421-4819

### **Veteran's Affairs Medical Center**

Justin Reidy, BA, CNMT  
Staff Technologist, Nuclear Medicine Dept.  
1601 Kirkwood Highway  
Wilmington, DE 19805  
Telephone # (302) 633-5315  
Fax # (302) 633-5490

### **Nemours, Alfred I. duPont Hospital for Children**

Kelly Sciole, BS, CNMT, ARRT(N)  
Lead Technologist, Nuclear Medicine Dept.  
1600 Rockland Road, P.O. Box 269  
Wilmington, DE 19803  
Telephone # (302) 651-4681  
Fax # (302) 651-4626

### **Bayhealth Medical Center – Kent General Hospital**

Erik Stauff, CNMT  
Lead Technologist, Nuclear Medicine Dept.  
640 S. State Street  
Dover, DE 19901  
Telephone # (302) 744-7057  
Fax # (302) 744-6264

### **Union Hospital**

Shelly Farris, CNMT  
Senior Technologist, Nuclear Medicine Dept.  
106 Bow Street  
Elkton, MD 21921  
Telephone # (443) 406-1834  
Fax # (443) 406-1373

### SCHEDULED CLINICAL TIMES

Christiana Hospital (2 <sup>nd</sup> Shift)	7:00 - 3:30 8:00 – 4:30 10:00 – 6:30 p.m (if approved)
Wilmington Hospital	7:00- 3:30
St. Francis Hospital	6:30 - 3:00
Alfred I. duPont Hospital for Children	7:00 - 3:30
Veteran's Affairs Medical Center (VA)	7:00 - 3:30
Kent General Hospital - Bayhealth Medical Center	7:00 - 3:30
Union Hospital	7:00 – 3:30

\*Clinical times may be adjusted to provide successful completion of procedural competencies upon approval from the Clinical Instructor and staff technologist.

### HOSPITAL PHONE NUMBERS

Allied Health Program Office (Riverside)	(302) 320-4590
<b>Christiana Care Main Campus</b>	
General	(302) 733-1689
Cardiac	(302) 733-1539
PET	(302) 733-3818
Helen F. Graham Cancer Center	(302) 623-4311
Wilmington Hospital (CCHS)	(302) 320-2177
St. Francis	(302) 421-4365
A.I. duPont	(302) 656-4681
VA Hospital	(302) 633-5315
Kent General Hospital	1-(302)-744-7057
Union Hospital	1-(443)-406-1834

## CLINICAL EDUCATION

### **Policies:**

1. Students observe, assist and perform procedures in conjunction with technologists in all aspects of in vivo and in vitro nuclear medicine procedures.
2. Students will perform procedures under the **DIRECT** supervision of a technologist, instructor or physician. All clinical facility paperwork must be either counter signed by the technologist or solely signed by the technologist. A student may not submit questionnaires, radiopharmaceutical preparation kits or blood volume forms with only their signature or initials.
3. **Under no circumstance can a student hand in, send a patient's scan to the physician for review, dismiss an outpatient, or send an inpatient back to their room without first having the technologist review the images.**
4. Procedures observed, assisted and/or performed must be documented on clinical procedure logs in New Innovations. All procedure logs **must be submitted by Monday at 1500 of the following week via new innovations.**  
Failure to submit the procedure logs by Monday at 1500 will result in a 1 point deduction per day from the **clinical rotation grade** and the discipline policy will be implemented. If the college observes a scheduled break when procedure logs are due, it is the student's responsibility to submit the logs by the above scheduled time.
5. **A certified staff technologist who is assigned to a particular camera or area evaluates the student's daily progress. Clinical proficiency is based upon preset objectives for each clinical rotation.**
6. Each student is allotted 8 hours of personal time per semester during clinic. All time missed from the clinical rotations beyond 8 hours must be made up according to guidelines found in the **Clinical Make-up Time policy** of this program manual.
7. At any time during a clinical rotation, a student may be quizzed or tested on procedures. Such evaluation mechanisms will be included in the student's clinical internship grade.
10. It is the student's responsibility to follow proper call-off procedures for any missed time from clinic or didactic courses. Failure to do so will result in a 2 point deduction off of the student's **Final** grade.
11. Clinical grades are based upon technical performance, appearance, attendance, radiation protection, injection technique and professionalism.
12. Delivery of Clinical Rotation Evaluation form is the responsibility of the student. Clinical Rotation Evaluation forms must be assigned to the technologist via [New Innovations](#) at least 2 days prior to the last day of the clinical rotation. (Failure to follow the required timeline will result in a 2 point/day deduction from the clinical rotation grade-Max 4 point deduction.)
13. All Procedure Competency evaluation forms must be assigned to technologist via New Innovations the day the competency was performed.

14. Any student rebuttal concerning a clinical grade must be **written and submitted to the Program Coordinator within one week after the initial review.**
15. Time cards are validated and signed by the clinical technologist daily. It is the student's responsibility to place the signed time card into the black box in the student class room by **1500 on Monday of the following week.** Failure to submit the time card will result in a 1 point/day deduction from the rotation clinical grade. If DTCC has an observed holiday, time cards are due at the beginning of the next class. (Please see disciplinary policy)
16. Incomplete/non-submittal of time cards will be considered time off from the clinic and invoke the attendance policy requirements.
17. Failure to effectively communicate with the clinical coordinator or the program coordinator if any problems or concerns arise in class, lab or clinic will result in disciplinary action.

**\*UNDER NO CIRCUMSTANCE CAN A STUDENT INJECT A RADIOPHARMACEUTICAL WITHOUT FIRST ASSAYING THE RADIOACTIVITY, VERIFYING THE PHYSICIAN'S ORDER AND PATIENT IDENTITY. THE STUDENT MUST PERFORM ALL OF THE TASKS MENTIONED ABOVE UNDER DIRECT SUPERVISION OF A TECHNOLOGIST OR PHYSICIAN.**

**THERE ARE NO EXCEPTIONS TO THIS RULE. DISREGARD FOR THIS POLICY WILL NOT BE TOLERATED AND WILL RESULT IN DISCIPLINARY ACTION.**

## CLINICAL COMPETENCY REQUIREMENTS\*

Although this program is designed to allow the student to move gradually from dependent to independent performance, students must achieve the following minimum competency requirements in order to progress to the next semester:

<b>Summer Semester (3 procedures)</b>
<ul style="list-style-type: none"><li>• Myocardial perfusion imaging (stress, rest and processing) (1)</li></ul>
<ul style="list-style-type: none"><li>• 2 additional procedures</li></ul>
<b>Fall Semester (13 new and 2 re-competency procedures)</b>
<ul style="list-style-type: none"><li>• Re-competencies on Cardiac (MPI) and 1 procedure from the summer semester</li></ul>
<ul style="list-style-type: none"><li>• 13 new competencies</li></ul>
<b>Spring Semester (13 new and 5 re-competencies procedures)</b>
<ul style="list-style-type: none"><li>• Re-competencies on Cardiac, Bone and 3 additional procedures</li></ul>
<ul style="list-style-type: none"><li>• 13 new competencies</li></ul>
<ul style="list-style-type: none"><li>• All competencies in each section in Category I must be completed prior to the end of NMT 297</li></ul>
<ul style="list-style-type: none"><li>• ARRT board requirements must be met prior to graduation. (Check the list requirements and verify all required procedures have been performed)</li></ul>

[\\*Click here for a list of competencies](#)

### Clinical Competencies

1. Minimum competency requirements must be completed by the end of each clinical semester.
  - Only during unforeseen circumstances will an **Incomplete** clinical grade be awarded for the semester. The student will be given only one additional week after the end of the summer or fall semester to complete the competency.
  - If the student fails to achieve the competency the incomplete grade will become an **F**. (See recycle policy in the Allied Health Handbook.)
2. Any failed competency during a clinical rotation which has not been repeated, will result in a zero, and will be included in the student's final competency grade. However, the competency requirements still apply for each semester.
3. The above clinical competencies must be successfully passed with a minimum grade of 75 to count. Any repeated competencies will only produce a **maximum** grade of 75 if successfully passed.
4. All required competencies must be completed by the end of the NMT 297. No incomplete grades will be granted unless there are unforeseen circumstances.
  - Unforeseen circumstances include: extended illnesses and FMLA with proper physician documentation, military leave, death in the immediate family and delivery of a child.
  - **A student's lack of obtaining a competency because of their procrastination is not an unforeseen circumstance.**



## Rotation Injection and Kit Preparation Competencies

### Summer, Fall and Spring Semesters

For the listed clinical internship rotations the following additional competencies (5 each) are required:

#### Rotation Injection/ Kit Preparation Requirements 5 of each indicated comps are required for the following rotations:

	Kit Prep	Injection Through IV	IV Start	Straight Stick	Package Receipt	Gen. Elution
CCHS Cardiac		✓	✓			
CCHS 2 <sup>nd</sup> Shift	✓	✓				
CCHS Hot Lab	✓			✓	✓	✓
PET/CT		✓			✓	
Wilmington			✓	✓	✓	
VA		✓	✓		✓	
St. Francis		✓			✓	
Kent	✓	✓	✓		✓	
Union		✓	✓	✓	✓	

Students are only allowed to inject in peripheral lines under the direct supervision of an instructor or clinical technologist.

Please see [Clinical Forms](#) and [New Innovations](#) for individual competency forms for the required elements.

## CLINICAL NOTEBOOKS and PROCEDURE LOGS

Students are required to complete their own Clinical Pocket Notebook for each procedure at every clinical site. This notebook must be carried by students during **all** clinical and laboratory sessions.

### Clinical Notebook

Information to be included in student notebooks:

1. Routine procedures for each study learned to include:
  - a. dose and radiopharmaceutical
  - b. when the patient is imaged post-injection
  - c. views, and acquisitions
  - d. matrix size, counts/time, frames
  - e. collimator
  - f. patient prep
  - g. processing
  - h. list relevant patient questions

**\*All information should be entered in an organized manner.**

2. Variations in routines according to clinical site
3. Emergency protocols
  - Code Blue, Standard precautions, RACE, MSDS, etc.
4. Security's phone number for the institution.

The Clinical Supervisor, Clinical Technologists and the Clinical Instructor may review the student's notebook at anytime during the clinic or laboratory courses. Quizzes may be administered during clinical rotations with the option for the student utilizing his/her notebook. Notebooks may be graded and computed into the final clinical grade.

## STUDENT CLINICAL ROTATION GUIDE

### GENERAL OBJECTIVES AND RESPONSIBILITIES:

#### I. For the Patient and Co-Workers

- ◆ To be professional and polite to all patients, technologists, and hospital personnel.
- ◆ To assist and perform **all** nuclear medicine procedures under the DIRECT supervision of a technologist or physician.
- ◆ Complete all questionnaires and patient information necessary to obtain a thorough patient's history.
- ◆ KEEP ALL PATIENT INFORMATION CONFIDENTIAL (see Confidentiality Policy).
- ◆ Abide by all HIPPA guidelines which include not telling the patient or patient's family any diagnostic information.
- ◆ Inform the technologist or physician **immediately** when "something has gone astray".
- ◆ Prepare imaging rooms before and after patient studies to be compliant with infectious control procedures. (ie. change linens, wipe down equipment and patient imaging tables. etc.)
- ◆ Use aseptic procedures when performing injection techniques and radiopharmaceutical preparation.
- ◆ Empty all "hot" trash into their respective container.
- ◆ Have all female patients between the ages of 10 and 55 verify the status of possible pregnancy and/or breast feeding.
- ◆ Washing hands is required prior to and after all patient contact.
- ◆ Seasonal flu, PPD (TST) and any other required vaccinations must be kept up to date at all times.
- ◆ Students are not allowed in the clinical if they display signs of illness (fever, vomiting, and diarrhea).

### **Quality Control, Instrumentation and Radiation Protection**

- ◆ To assist and perform all QUALITY CONTROL on each instrument and camera daily.
- ◆ Validate the results daily for all quality control on each instrument with the clinical facility technologist.
- ◆ Discard all radiopharmaceuticals to the proper hotlab trash. Do not discard any sharps into a regular receptacle.
- ◆ Wear gloves and eye protection when injecting, performing blood volumes, straight sticks and IV starts.
- ◆ Wear gloves when opening packages and handling all radiopharmaceuticals.
- ◆ Abide by appropriate protocols when opening radioactive packages as stipulated by the clinical facility.
- ◆ Wear lab coats completely buttoned during **all** clinical rotations.
- ◆ **DO NOT EAT, DRINK OR APPLY COSMETICS IN THE CLINICAL RESTRICTED AREAS. NO GUM, MINTS or CHAPSTICK ALLOWED!**
- ◆ Notify the technologist immediately if an error or a malfunction occurs on any instrument.
- ◆ **EXPOSURE BADGES MUST BE WORN AT ALL TIMES DURING CLINICAL and LABORATORY HOURS**
- ◆ Ring badges must be worn when handling patients, in contact with any radioactive substance, preparing, assaying and administering radiopharmaceuticals.
- ◆ Abide by all radiation standards when injecting and compounding radiopharmaceuticals. (Utilization of syringe shields, lead lined containers and unit dose carriers).

### **During the Clinic, Didactic Class and Meetings**

- ◆ Cell phones are not permitted to be utilized during scheduled clinical hours or during classroom or laboratory sessions. Cell phones should be silenced during these times.
- ◆ Clean and stock assigned imaging room before and after each shift.
- ◆ Monitor hands and record after handling any radioactive material as per clinical site.
- ◆ **Do not** wear lab coats while eating lunch or during break periods.

- ◆ DO NOT TAKE ANY BOOKS OR JOURNALS FROM ANY DEPARTMENT WITHOUT THE GIVEN PERMISSION BY THE CHIEF TECHNOLOGIST, MEDICAL DIRECTOR OR PROGRAM COORDINATOR.
- ◆ DO NOT make any copies of films or take patient films from an assigned hospital without permission from the chief technologist or program coordinator.
- ◆ Unauthorized use of the facilities' Powerchart, PACS, ISite, RIS or HIS systems is direct violation of HIPAA.
- ◆ STUDENTS MUST WEAR THEIR CCHS PHOTO ID AT ALL TIMES DURING THE CLINICAL INTERNSHIP and DIDACTIC COURSES WHEN THEY ARE ON CCHS PROPERTY.
- ◆ Delaware Technical Community College student ID must be worn at all other clinical facilities.
- ◆ Under no circumstances can you lend the CCHS's "ID CARD" to any friend or family member.
- ◆ Eating lunch in the student classroom is not permitted. (Clinical site specific)
- ◆ NO MORE THAN **ONE** STUDENT PER IMAGING ROOM.
- ◆ NO CONGREGATING IN THE HALLWAYS OR IN IMAGING ROOMS.
- ◆ No sleeping during clinic or classes (see discipline guidelines).
- ◆ The cost of gas, bridge tolls and parking at clinical affiliates is at the expense of the student.
- ◆ Professional dinner meetings are at the expense of the student.
- ◆ Students are required to complete educational mandatory CAI and/or attend inservices required by CCHS and any other clinical site.
- ◆ All clinical facilities are smoke free areas. Any smoking on clinical site property is direct violation of their policy and grounds for program disciplinary actions.
- ◆ Noncompliance to any hospital rules or regulations could jeopardize the student's continuing success in the program and will result in a 10 point deduction from the **Final** semester clinical internship grade. (See guidelines for discipline.)
- ◆ Students are required to obtain BLS for Healthcare Providers CPR certification prior to NMT115 Introduction to Nuclear Medicine.

## **GRADING POLICY**

### **CLINICAL GRADING SYSTEM**

The student's clinical performance will be graded throughout each semester. Set objectives are assigned for each room and camera. As the year progresses, individual task assignments increase in difficulty. All students must attain a 75% level of proficiency on all college terminal, programmatic, course and rotation competencies.

The following grading scale is utilized for clinical evaluations:

A = 92 - 100  
B = 83 - 91  
C = 75 - 82  
F = below 75  
I = Incomplete  
W = Withdrawal

### **ACADEMIC GRADING POLICY**

To ensure the competency of the student in all didactic material, the following academic grading system is implemented:

A = 92 - 100  
B = 83 - 91  
C = 75 - 82  
F = below 75  
I = Incomplete  
W = Withdrawal

Please see individual course syllabus for overall requirements.

## TEST POLICY

- A. Students who miss classes due to an illness/personal reasons must complete that material and be prepared to take the exam with the rest of the class; tests will not be postponed to accommodate individual student schedules.
- B. At his/her own discretion, the instructor may choose to provide extra credit projects and/or bonus questions on the final exam. All extra credit opportunities will be available to every student.

## RETEST POLICY

In order to provide students with reasonable opportunities for successful completion of the Program, the following retest policy applies to students who have failed ("F") a program didactic course:

- A. At the end of a program didactic course, when the student has a failed grade for the course, the student may be permitted to retest. This is at the discretion of the instructor and will only occur when doing so gives the student the potential to pass the course.
- B. The retest format must pertain to a didactic course or didactic portion of a course. The retest is a written exam which can only replace one written exam that received a grade of below 75. If the student passes the retest, a grade of 75 will be awarded for the retest. It will be weighted according to the course evaluation mechanism described in the Instructor's course handout.
- C. Instructors will notify the Program Coordinator of any retests administered. This information will be maintained by the Program Coordinator.
- D. The following restrictions apply to this policy:
  - 1. Only two opportunities to retest will be permitted during a student's tenure in the program curriculum.
  - 2. Only one retest will be permitted per semester regardless of the number of courses taken that semester. The retest can be given in either a didactic course or a didactic component of a course that also contains a laboratory component.
  - 3. No opportunities to retest will be permitted when academic dishonesty occurs (see [Standards of Student Conduct Policy](#) p. 13).
  - 4. If a student fails the retest, the final grade will be an **F** for the course.
    - a. Retests do not pertain to quizzes, lab practicums, assignments, or projects.
  - 6. Retest will only be granted if the student has failed a test.

### **MAKE-UP EXAM POLICY**

In the event that a student misses a major exam due to absence, a make-up exam will be given. The following restrictions will apply:

- A. Only one opportunity to make-up an exam will be granted within the entire NMT curriculum (all courses with a NMT prefix) as long as the student followed the proper “call-off” protocol.
- B. The student must contact the instructor immediately upon return from absence, not to exceed three days, in order to schedule the make-up exam.

### **Test/Exam Integrity Policy**

In order to maintain integrity during academic testing, the following guidelines have been established:

- A. All books, papers, notebooks, etc. must be contained in a backpack and placed on the floor under the desk.
- B. All electronic devices, including but not limited to, cellphone, laptops, tablet, and *smart watches* must be powered off and placed in the backpack under the desk.
- C. Calculators, if required, will be provided by the instructor.
- D. Scratch paper, if needed, will be provided by the instructor.
- E. No one will be permitted to leave the classroom once the test has been handed out.
- F. No food or drink will be permitted during the test.



## ATTENDANCE POLICY

### CLINICAL INTERNSHIP

Attendance in clinical education is mandatory. A student can increase his/her proficiency in Nuclear Medicine only through increased time within the departments. If a student misses clinical education due to illness or for personal reasons, the following restrictions are applied to the individual **semester** clinical final grade:

1. Each student has 8 hours of personal time per semester. Any hours missed above 8 **must be made up** prior to the end of the semester. If a student fails to fulfill their required make-up time on the assigned days, 2 points will be deducted from their final grade.

The student must **schedule** their make-up time with the clinical coordinator, within two weeks of the absence. The student is required to honor their scheduled make-up day(s) or 2 points will be deducted from their final grade.

2. You are allowed to have one **occurrence** for clinical hours without any points being deducted from your final grade. Any time missed over the **one** occurrence will result in a 1 point deduction off your **final semester grade for each additional occurrence**:
  - One absence is equal to **one (1)** occurrence
  - Two lateness/early dismissal is equal to **one (1)** occurrence.
3. Clinical affiliate instructors must verify all time cards documenting the student's clinical attendance.
4. If the total number of clinical hours missed exceeds **twenty percent**, an **F** grade will be awarded to the student for that course.
5. If you are going to be absent or late for any reason, please e-mail the Karen Griffith @ [kgriff17@dtcc.edu](mailto:kgriff17@dtcc.edu) **AND** notify the clinical site within 15 minutes of the start of clinical shift.

### CLASS ATTENDANCE

EACH COURSE INSTRUCTOR WILL DOCUMENT STUDENT'S ATTENDANCE.

Please arrive to class and lab on time. If you arrive late you may enter the classroom however lateness or leaving early, before class is finished, is considered an occurrence.

You are allowed to have one **occurrence** that encompass **both** class/lab hours without any points being deducted from your final grade. Any time missed over the **one** occurrence will result in a 1 point deduction off your **final semester grade for each additional occurrence**:

- One class or lab absence is equal to **one (1)** occurrence
- Two class or lab lateness/early dismissal is equal to **one (1)** occurrence

If you are going to be absent or late for any reason, please e-mail the instructor. Any problems which must be discussed with the instructor should be directed to the instructors Delaware Tech e-mail

## CALL OFF/LATE POLICY FOR CLINIC OR DIDACTIC COURSES

### For Clinic

1. When a student "calls off" or will be late he/she must first e-mail Karen Griffith at [kgriff17@dtcc.edu](mailto:kgriff17@dtcc.edu) prior to the start of their shift.
2. In addition, the student must inform the clinical site of his/her absenteeism by 15 minutes post assigned clinical time.
  - If a student is late, he/she must inform the clinical site with a tentative arrival time
  - The student is required to state to the assigned technologist or supervisor, **not a clerk**, he/she will be late or absent.
  - If call is answered by an answer machine, leave a message and e-mail the instructor to inform her that you have left a message.
4. Students MUST be on the "floor" by their assigned times. Clinical time cards will reflect the time the student is actually in their assigned area not the time he/she walks into the department. All start times must be verified by the assigned technologist.
3. Students must call Karen Griffith (302) 320-4553 prior to leaving or having been dismissed by a clinical site before the end of their scheduled time. Failure to do so will result in a 2 point deduction for each infraction off their final computed clinical grade.

### For Courses

1. When a student "calls off", he/she must e-mail the course instructor prior to the start of class.

A 2 point deduction for each occurrence will be taken off the final grade for not following the policy. Failure to inform a clinical site and/or the clinical instructor of one's absenteeism during clinical and the didactic instructor for courses could jeopardize the student's success in the Nuclear Medicine program. ([See guidelines for discipline](#))

## BREAK AND LUNCH PERIODS

Breaks are a luxury. The technologists are not required to allocate time for morning or afternoon breaks. However, if a student is assigned a break (**total time fifteen minutes**) eating and drinking is not permitted in the classroom, restricted area, or any departmental lounge.

Thirty minute lunches are **mandatory** for each clinical day. The student is not permitted to work through the lunch period, even at the request of a technologist. Additionally, lab coats are not to be worn to the cafeteria.

ID photo name tags must be worn to the cafeteria.

## **HAZARDOUS WEATHER ATTENDANCE POLICY**

An official snow day from classes and clinic will be observed when DTCC (Wilmington) announces its closing. Late openings will also be observed as announced. However, there is a strong possibility that missed time in the clinic will be made up. Be sure to update contact information through DTCC to be advised of this information.

Please check DTCC website for the Stanton/Wilmington Campus.

## **DEATH IN THE IMMEDIATE FAMILY**

The following procedure is utilized in the unfortunate periods of death in the immediate family. The time granted off is an excused absence.

Students may receive up to three days excused absence in the event of a death in their immediate family. Immediate family includes spouse, children, parents/parents in-law, brothers, sisters, or significant others.

## **VACATION AND HOLIDAY POLICY**

The Nuclear Medicine program requires attendance in class and clinic on a full time basis. Clinical courses require the student to attend clinic during normal college breaks.

Students will have off from class and clinic during the following breaks and holidays:

### Summer Semester

Memorial Day - Last Monday in May

Independence Day - July 4<sup>th</sup>

A Three Week Break following end of Summer classes

### Fall Semester

Labor Day - First Monday in September

Thanksgiving Holiday - Fourth Thursday & Friday in November

Christmas Vacation - 3 week period encompassing Christmas Day and New Years Day

### Spring Semester

Martin Luther King Day - Third Monday in January

Spring Break - Good Friday and 1 week following Easter

## DRESS CODE POLICY

All uniforms must be ironed and professional in appearance with no writing or visible damage to the uniform. All uniforms must be size appropriate (no tight fitting or baggy uniforms). Students who attend clinical, didactic and lab sessions in improper uniforms will have one point deducted from their final grade for each infraction (shirts, socks, pants and lab coats.) In the event a student arrives for clinic without his/her lab coat, ID badge or dosimeter, they will be asked to leave the site. Time missed will be deducted from the student's personal time and penalty points will be implemented. If any there are any questions about the appropriateness of the uniform, please contact the program faculty.

1. Light blue (ceil) scrub pants, shirts and lab coats.
2. White socks.
3. Leather (not canvas) athletic shoes (color may be black or white.)
4. No bright cosmetics.
5. No dangling jewelry or earrings. Only two earrings per ear. No raised stones in rings.
6. Hair must be tied back if it touches the shoulders.
7. No colored nail polish. No acrylic overlays or false nails.
8. **No perfume, after-shave, scented lotions or heavy body wash-** can be worn in the clinic or classroom.
9. White T-shirts or long sleeve shirts may be worn beneath scrub tops. (No logos or print may be visible beneath uniform)
11. **STUDENT ID BADGE MUST BE WORN AT ALL TIMES IN THE CLINIC.**
12. All visible tattoos must be covered during clinic.
13. No facial or tongue piercings during clinical and lab classes.
14. All ear gauges must be plugged.

## RADIATION PROTECTION POLICY

Radiation protection for oneself and for the patient is a major responsibility for the student. All students will receive radiation protection instruction in the Introduction to Nuclear Medicine course, as well as a full semester of formal classes covering Radiation Protection and Radiation Biology later in the program. Students will be evaluated regularly in the department to insure that these principles are being implemented.

A whole body dosimeter and a TLD ring badge will be distributed quarterly and **must** be worn by each student while in the Nuclear Medicine departments. Any student who reports to clinic or lab without their monitoring device will be sent home to retrieve it.

A copy of each radiation exposure history is maintained in the school office and will be reviewed and initialed by each student quarterly. Permanent records are kept in the radiation safety officer's office at Christiana Care Health system. Damage to a monitoring device or inadvertent exposure to a radiation source should be reported to the Program Coordinator immediately.

Failure to comply with radiation protection standards will result in disciplinary action.

## EXPOSURE BADGES

1. Exposure dosimeters must be worn during all clinical and laboratory sessions.
2. Whole body badges are worn on the outside of the lab coat at the approximate height of the collar.
3. Ring badges are worn on the hand most frequently utilized.
4. Old badges must be submitted to the Program Coordinator no later than the third of each quarter. Failure to comply will result in the deduction of 1 point from the final clinical grade for each day they are late. Since nuclear medicine students wear two exposure badges there exists the possibility that two points will be deducted for each time period.
5. **In the event an exposure badge is lost three points will be deducted from their final clinical grade.**
6. **NO STUDENT IS ALLOWED IN THE CLINIC WITHOUT HIS/HER EXPOSURE BADGES.**
7. Time missed during a "badge-less" period will fall under the stated attendance policy.

### Pregnancy Policy

If a student voluntarily chooses to inform program officials of her pregnancy, it must be in writing and indicate the expected delivery date. In the event of an announced pregnancy the student must meet with the program director and inform the radiation safety officer of the primary clinical affiliate (CCHS).

A pregnant student is encouraged to complete the program and continue as long as she is physically able. A pregnant student will not be removed from clinical duty specifically for the condition of being pregnant. If the student cannot complete the program, the program director and the instructional director will advise each student (on an individual basis) of all clinical and academic options available before all parties reach an agreement. If the student withdraws, she may seek re-admission for the following year and adhere to the Withdrawal/Re-Admission Policy for Nuclear Medicine Program students.

### Pregnant Clinical Policy

The NCRP (National Council on Radiation Protection and Measurements) established dose-limiting recommendations in 1971. In that report, the total radiation dose to the mother/fetus during the entire pregnancy will be limited to less than 500 millirems. As mentioned previously, exposure records will be reviewed with the student.

The NCRP has set the occupational exposure limits at very low levels and medical evidence has indicated no clinically observable injuries to individuals due to radiation exposures when the established radiation limits are not exceeded. All of the clinical affiliates for the Nuclear Medicine Program follow the ALARA principle (as low as reasonably achievable). The risk to individuals at the occupational exposure levels is very low when performing routine clinical procedures. By adhering to the Program policy and recommendations of the NCRP, ALARA guidelines insure minimal exposure rates to the pregnant student.

A pregnant student may perform all the routine clinical procedures that a non-pregnant individual can, with the exception of those procedures that have a higher radiation exposure rate (see Exemptions).

These procedures can be simply avoided. However, all clinical and didactic objectives and competencies **MUST BE** completed with a minimum score of 75% prior to graduation. The program director, clinical supervisor and/or clinical facility will adjust contact of the student with known patients having contagious diseases.

### EXEMPTIONS

- Radiopharmaceutical preparation (generator elution)
- Handle high-energy diagnostic radionuclides (i.e. 131 iodine)
- Interact with patients receiving radiotherapies
- Handle liquid iodinated sources
- PET rotation

Ref: Anthony Benedetto Ph.D. Employment in Nuclear Medicine During Pregnancy. JNM Dec. 1986 218- 224

## **POLICY ON COMMUNICABLE DISEASE**

The establishment of an appropriate awareness by students enrolled in an Allied Health program regarding potential exposure to communicable disease is the role of the department. In meeting this obligation the department requires:

- a. annual attendance at an informational forum regarding communicable diseases of serious concern to Allied Health students.
- b. the availability of literature regarding vaccination programs or testing to determine the potential for contracting the disease.
- c. a defined protocol for maximum prevention of transmission of communicable diseases to the student or to the patient. (See [Standard Precautions](#))

Because such a policy may only become effective with cooperation of the enrolled student, the student is obligated to:

- a. submit medical history and physical examination forms prior to the start of program major courses.
- b. sign statements regarding knowledge of any decisions about available vaccine programs.
- c. routinely complete the appropriate protocol for prevention of transmission of disease between student and patient.
- d. immediately report any occurrence or illness that may indicate exposure to a communicable disease.
- e. comply with all required vaccination or testing prior to entering the clinical setting.

Variation from defined protocol or required testing may result in dismissal from clinical setting.

Re-entry will be determined after thorough incident review by the department and clinical site personnel.

- Allied Health Policy Manual

## **STANDARD (UNIVERSAL) PRECAUTIONS**

Occupational exposure to bloodborne and other pathogens may occur during procedures in which potentially infectious materials may be reasonably anticipated to contact a student's skin, eye, or any mucous membrane, or penetrate the skin of the student on a sharp object. Potentially infectious materials include:

- ° blood
- ° blood or serum containing body fluids, secretions, or excretions
- ° any unfixated body tissue
- ° semen
- ° vaginal secretions
- ° cerebrospinal fluid
- ° synovial fluid
- ° pleural fluid
- ° pericardial fluid
- ° amniotic fluid
- ° saliva
- ° other secretions
- ° excretions
- ° microbial cultures

In a practical sense, this means:

1. Hands must be washed before and after patient care, immediately if soiled with potentially infectious materials, and after removing gloves or other personal protective equipment. In those limited instances in which handwashing facilities are not available use the hand sanitizers provided.
2. Gloves must be worn when handling items contaminated with potentially infectious materials. Disposable gloves may not be washed and must be changed between patients. Any glove that is punctured, torn, or otherwise damaged must be discarded.
3. Gowns or other clothing protection must be worn whenever soiling with potentially infectious materials may be reasonably anticipated. Clothing that has become soiled with potentially infectious material must be removed as soon as possible and the area of skin that was soiled must be washed with soap and water.
4. Masks and eye protection or face shields must be worn whenever splattering or aerosolization of potentially infectious materials may be reasonably anticipated (e.g., suctioning, passing NG tubes, vaginal exams, etc.).
5. Sharps must always be handled in a manner that prevents injury. Discard disposable sharps immediately in the rigid sharps containers provided; use containers closest to the area of use. **DO NOT** recap, bend, break, or otherwise manipulate contaminated needles. For those **limited** instances in which recapping is indicated, only approved safety devices or one-hand recapping method may be used. Contact Infection Control for further information.



6. **DO NOT** reach into a contaminated sharps container or contaminated trash box **at any time for any reason**. If there is a problem with retrieval of an essential item, contact your technologist. Do not allow sharps containers to overflow; replace as needed.
7. **Report ALL penetrating injuries or possible exposures to potentially infectious materials immediately to the supervisor. Initiate the Needlestick/Penetrating Injuries and Blood or Secretions Splash Policy. Contact the Program Director immediately.**
8. All used/soiled linen must be bagged in properly labeled polyester laundry bags. If soiled linen is excessively wet or bloody, or if potentially infectious materials have soaked through the polyester bag, place the entire bag in a **CLEAR** plastic bag. Do not use red bags for linen under any circumstances.
9. Contaminated trash must be discarded in a contaminated trash box or barrel that has been lined with two red bags.
10. Eating, drinking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of exposure to potentially infectious materials. Each department/unit shall define such areas.
11. Food and drink must not be kept or placed, even momentarily, in refrigerators, freezers, shelves, cabinets, or on countertops where potentially infectious materials are not present nor where potentially infectious materials are usually stored.
12. All procedures involving potentially infectious materials must be performed in a manner that minimizes splattering or aerosolization.
13. Mouth pipetting/suctioning of potentially hazardous materials is prohibited.

**Policy and Procedures for the Management of  
Needlestick/Penetrating Injuries  
and Blood or Secretions Splash Policy**

Purpose:

To provide appropriate prophylaxis and follow-up for students who sustain percutaneous or mucous membrane exposures to blood and body fluids.

Policy:

1. Student's Responsibilities:

A. First Aid

1. Allow to bleed. Wash the injury site thoroughly with soap and water.

OR

2. Rinse the exposed mucous membrane thoroughly with water.

B. Notify your supervisor immediately of the exposure.

C. For any exposure at a CCHS site:

- a. Click on the following link and follow the instructions listed below  
<http://employeehealth/NeedleStick>

**Needlestick/Blood Splash Exposure Report  
Non - CCHS Employee**

(Police Officer, Medic, EMT or Nsg home employee, etc.)

1. Non Employee **must** be **registered** at triage.
2. Complete online report: I Net, click onto needle stick/exposure, BUT, in the upper right hand corner click "different person" indicating that the person reporting is not the person exposed. Then click "non-employee" in the lower L corner of the name box.
3. Complete the 4 page form printing each page (in case the program doesn't function properly). Print out 2 copies of the final page > send 1 copy with lavender and corvac tubes (drawn from the source pt) to the blood bank. Ne Lab will do rapid HIV and report to NP.
4. Additionally, complete the reporting form from the De Health & Social Services called "report of potential exposure for emergency medical care providers." (found in bin across from room #2) Give one copy of this form to the EMT, etc., 2<sup>nd</sup> copy to Employee Health Services, 3<sup>rd</sup> stays with the ED chart.

D. Follow Needlestick Policy specific to the clinical site.

E. Contact the Program Coordinator immediately.

II. Technologist's Responsibilities:

- A. Be sure that the student has cleansed the exposure site as directed.
- B. Initiate reporting form.

III. Supervisor's Responsibilities:

- A. Have the lab drawn.
    - 1. In EVERY incident where the patient source of the exposure is known, have the patient's blood drawn for Hepatitis B surface antigen (HBs Ag).
  - B. Identify the patient's risk factors for HIV, non-A, non-B Hepatitis or other blood/secretion borne infections.
    - 1. Patient with acute hepatitis of unknown etiology.
    - 2. Immigrant of Asian-Oriental origin.
    - 3. Homosexual or bisexual male.
    - 4. Intravenous Drug Abuser.
    - 5. Sexual partner or infant of the risk groups.
    - 6. Recipient of multiple blood transfusions (more than 10 units) or transplant.
    - 7. Recipient of blood transfusions before 1985.
    - 8. Institutionalized Down's syndrome patient.
    - 9. Renal dialysis patient.
    - 10. Known HIV positive patient.
    - 11. Known HBs Ag positive patient.
  - C. If the patient does not have any identified risk factors, indicate appropriately on the report form.
  - D. If there are identified risk factors for HIV, discuss the situation with the treating physician and request that he/she obtain consent and have HIV antibody testing done.
  - E. Charts no longer have red dots to designate HIV house patients.
  - F. Processing Contaminated Clothing at CCHS
    - 1. Be sure student has washed blood exposed areas of skin thoroughly with soap and water and provide the student with clean scrubs.
    - 2. Initiate the needlestick/blood or body fluid exposure report form. Be sure that both the department and home telephone numbers have been provided.
3. Place contaminated clothing into **CLEAR PLASTIC** bag and place **BLUE COPY** of the needlestick report form into the bag for identification.

## **DTCC Student Policies**

The following student policies can be located at [DTCC Student Handbook 2015-2016](#)

- Tuition refund
- Academic withdrawal
- Readmission
- Due process
- Academic Integrity

## **COUNSELING POLICY**

### **COUNSELING**

The program recognizes potential difficulties encountered by students. Therefore, the program offers guidance to help students identify and overcome these problems that might hinder their educational progress or professional development. Students are encouraged to seek the assistance of the faculty as the need arises. Should further counseling be necessary, appropriate referrals will be made.

### **DISCIPLINARY PROCEDURE**

Students enrolled in the program are expected to adhere to the policies of the Allied Health Department, Nuclear Medicine Program, and clinical sites as outlined in the student handbook.

When a student's behavior or actions threaten to impede his/her clinical or didactic progress, a counseling session will be arranged by the faculty at the point in time the deficiency is noted. The purpose of this session is to make the student aware of the problem and guide him/her towards corrective measures.

Arguing and insubordination to fellow students, instructors, physicians, clinical technologists and hospital staff is not tolerated and is basis for disciplinary actions.

## DISCIPLINE POLICY

In addition to the deduction of points from the final clinical grade as stated in the previous pages, certain infractions will also be documented according to the following actions.

First Infraction Verbal Counseling	Second Infraction Written Progress Report	Third Infraction Written Progress Report and Mandatory Counsel Session (5 points off Final semester grade)	Fourth Infraction Suspension (10 points off Final semester grade)	Fifth Infraction Dismissal
1.	Disregard of dress code policy			
2.	Failure or incomplete documentation of clinical times in New Innovations and/or time card			
3.	Failure to complete procedure logs, or submit clinical rotation evaluations to technologist			
4.	Disregard of attendance and/or call off policy			
5.	Disregard of personal hygiene			
6.	Leaving the assigned area without permission			
7.	Carelessness or horseplay			
8.	Failure to assign grading forms to technologists (competencies, evals, etc.)			
9.	Improper use of clinical downtime			
First Infraction Written Progress Report (3 points off Final semester grade)	2 <sup>nd</sup> Infraction Written progress report (5 points off Final semester grade)	Third Infraction Suspension of clinical rotation per instructor's discretion (10 points off final grade)	Fourth Infraction Suspension Dismissal	
1.	Refusal to carry out an assignment			
2.	Insolence, disrespect, abusive or threatening language			
3.	Not wearing exposure badges in the clinic			
4.	Refusal or failure to adhere to standard radiation protection practices in the clinic			
5.	Refusal or failure to submit exposure badges by the proper date			
6.	Failure to comply with the radioactive dose policy			
7.	Forgery of clinical evaluations, procedure logs and time cards			
8.	Endangering the health or safety of patients or employees			
9.	Negligence			
10.	Eating, drinking, smoking, chewing gum/mints or applying make-up in restricted areas			
11.	Sleeping on duty			
12.	Non-compliance of NRC and State regulations			
13.	Non-compliance of Confidentiality Policy			
14.	Failure to perform under direct supervision while handling any radioactivity.			
First Infraction Dismissal				
1.	Fighting, assault, intent to harm			
2.	Theft			
3.	Willful damage of hospital property			
4.	Falsifying records			
5.	Possession of weapons, explosives, firearms, alcohol or drugs			
6.	Under the influence of drugs or alcohol and/or alcohol on one's breathe			
7.	Sleeping on duty			
8.	Non-compliance of NRC and State regulations			
10.	Non-compliance of Confidentiality Policy			

## CONFIDENTIALITY POLICY

- A. The confidentiality of patient, employee, clinical faculty and clinical site information is rigorously protected in the clinical setting.
1. It is essential that ALL information about patients, employees, clinical faculty, clinical site/hospital procedures, research and equipment be kept absolutely confidential. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) is in effect in all clinical facilities.
  2. Students do not have the authority to download any patient identified images, records or information onto removable external devices.
  3. Prior to entering the first clinical experience, each student is required to complete a self-instructional packet on the subject of HIPAA.
  4. The clinical site may require the student to sign a statement which indicates the student understands and will adhere to the policy. Failure to sign the statement and adhere to policy will jeopardize the student's ability to complete their enrolled program.
- B. The confidentiality of patient, employee, clinical faculty and clinical site information extends to all written and verbal communication.
1. Any written comments related to clinical site activity and/or individuals (including patients, employees, faculty and classmates) posted on an online social network including, but not limited to, Facebook and Twitter, are a violation of the Confidentiality Policy.
  2. Any verbal conversations related to clinical site activity or individuals (including patients, employees, faculty and classmates) held in an unsecured location then posted to an online social network are a violation of the Confidentiality Policy.
- C. There are stringent consequences for students who do not adhere to HIPAA regulations and the guidelines set forth in this Confidentiality Policy. These may potentially include dismissal from a clinical site for a first offense. Within the Allied Health/Science Department, unauthorized release of information will be treated as a Violation of Student Conduct.
- D. When a student is dismissed from a program for the above offense, the Allied Health/Science Department reserves the right to prohibit that student from reapplying to any Allied Health Program.

**HIPAA POLICY**  
**Health Insurance Portability and Accountability Act**

HIPAA is a federal law that protects a patients' right to privacy. The new HIPAA law took effect on April 14, 2003.

Protected Health Information (PHI)

PHI: A combination of an individual's identifiers, i.e., name, social security number, and health information. It includes all health information that is created, collected, stored, transmitted or processed in any form, i.e., paper, electronic or verbal.

Designated Record Sets (DRS)

DRS: Represents a defined group of records containing protected health information that is created and/or maintained by a department and is used to make decisions about an individual's health care.

## RE-ENTRY POLICY

Eligibility of students for re-entry into the Nuclear Medicine Program is outlined in the [Allied Health Policy Manual](#). Prior to acceptance back into the Program, the following requirements will apply:

1. All NMT didactic courses must be retaken from the second summer semester forth and all clinical courses must be retaken for credit (NMT 295, 296 and 297).
2. The student may test out or retake NMT 101 Patient Care for the NMT, NMT 115 Intro to NMT with Clinical lab, NMT 222 Nuclear physics and NMT 121 Computers and Informatics.
  - Test out consists of:
    - NMT 101 successfully pass a cumulative didactic exam with a minimum grade of 75
    - NMT 115 successfully pass a cumulative didactic exam with a minimum grade of 75 and successfully pass the clinical skills competencies with a minimum grade of 75 for each
    - NMT 121 successfully pass a cumulative didactic exam with a minimum grade of 75
    - NMT 222 successfully pass a cumulative didactic exam with a minimum grade of 75

**\*\*A score of less than 75 on the cumulative exam and/or each competency will require the student to retake the course(s) and successfully pass each course with a minimum grade of C. Failure to retake the courses will result in the student not being accepted for re-entry into the nuclear medicine program.\*\***



## List of Competencies

### Category I

*All Category I Competencies must be completed by the end of the Spring Semester*

(Please Refer to NMT 295, NMT 296 and NMT 297 syllabi for each semester require

Procedure	Summer	Fall	Spring
V/Q (xenon + perfusion)	Student must perform both portions of study		
V/Q (aerosol + perfusion)	Student must perform both portions of study		
V/Q (quantitative)	Students must successful pass routine V/Q competency prior to performing V/Q quantitative competency. Student must perform V/Q scan and processes for Quantitive lung. Student can NOT just process the scan.		
Bone Scan (Statics)			
Bone Scan (WB Sweep)			
Bone Scan (3-Phase)			
Bone Scan (SPECT)			
PET/CT (Tumor)	WB for tumor is 1 competency regardless of diagnosis (H&N, SPN)		
MPI			
MUGA (Resting)	Student must tag blood as part of competency. (procedure competency + kit prep competency)		
Gastrointestinal Bleed	Student must tag blood as part of competency. (procedure competency + kit prep competency)		
Gastric Empty (Solid)			
Gastric Empty (Milk Scan)			
Hepatobiliary (Routine)			
Hepatobiliary (CCK + Regular IDA)			
Thyroid (Uptake & Scan)			
Thyroid (Hyperthyroid Treatment) (Simulated)			
Thyroid (Ablation) (Simulated)			
Thyroid (Metastatic Survey)			
Palliative Bone (Simulated)			
Peptide Imaging (Octreotide), Lymphoscintigraphy (with images), and/or Adrenal imaging (MIBG planar & SPECT)			
Renal (Dynamic Perfusion)			

## Category II

**\*\*All ARRT requirements must be met prior to graduation\*\***

(Please Refer to NMT 295, NMT 296 and NMT 297 syllabi for each semester required competencies.)

Procedure	Summer	Fall	Spring
<b>Cystogram (Direct)</b>			
<b>Renal (SPECT)</b>			
<b>GFR</b>			
<b>Renal (Cortical Imaging)</b>			
<b>WBC (Indium 111 or Ceretec)</b>			
<b>Infection Imaging (Gallium)</b>			
<b>Tumor Imaging (Gallium or Thallium)</b>			
<b>Tumor Imaging (Monoclonal Antibodies)</b>			
<b>Parathyroid (SPECT and Planar)</b>			
<b>Hemangioma (SPECT and Planar)</b>			
<b>Liver/Spleen (Planar and/or SPECT)</b>			
<b>GI (Meckel's)</b>			
<b>Brain Flow (Brain Death)</b>			
<b>Brain Imaging (Planar)</b>			
<b>Brain Imaging (SPECT) (ie. DAT or Diamox)</b>			
<b>PET (Brain FDG)</b>			
<b>PET (Cardiac MPI)</b>			
<b>PET (Cardiac Viability)</b>			
<b>PET (WB dedicated PET)</b>	WB for tumor is 1 competency regardless of diagnosis (H&N, SPN)		
<b>Bone Marrow imaging (RE cells)</b>			
<b>Blood Volume</b>			
<b>Gastroesophageal Reflux</b>	Competency may be performed as part of a Liquid GE (Milk Scan) for Pediatrics Liquid GE (Milk scan) competency must be successfully completed prior to performing GE reflux		
<b>Salivary Gland Imaging</b>			
<b>Salivagram</b>			
<b>Cisternogram</b>			

<b>Procedure</b>	<b>Summer</b>	<b>Fall</b>	<b>Spring</b>
<b>CSF Leak</b>			
<b>Spleen scan with labeled denatured RBC</b>			
<b>Tumor (Miraluma)</b>			
<b>Testicular</b>			
<b>Esophageal Transit</b>			
<b>Barrettes Esophageal</b>			
<b>First Pass</b>			
<b>Shunt Patency (Brain CSF)</b>			
<b>Shunt Patency(LeVeen shunt)</b>			
<b>Shunt Patency (Hepatic pump patency)</b>			
<b>Therapy (Intracavitary)</b>			
<b>Therapy (Polycythemia Vera)</b>			
<b>Therapy (Monoclonal antibody- Zevalin/Bexxar)</b>			
<b>Therapy (Embolic radiotherapy)</b>			

**Delaware Technical & Community College  
School of Nuclear Medicine Program  
Clinical Rotation Evaluation**

**To the evaluator:**

*Utilize the following criteria to indicate the student's performance for each of the stated objectives. **If you give a student all exceptional marks for each objective please validate your grade by giving examples of the student's superior performance!***

Student name: \_\_\_\_\_

Rotation: \_\_\_\_\_

Semester: \_\_\_\_\_ Technologist Signature: \_\_\_\_\_

Letter	Definition	Observed Criteria
<b>EXCEPTIONAL (100%)</b>	This student is an active self-directed learner whose performance in this area has been consistently outstanding.	<b>No technologist intervention is necessary for routine procedures. The student plans ahead and can act accordingly. Uncommon procedures are accomplished after the student has received minimal instructions from the technologist.</b>
<b>ADVANCED (92%)</b>	The student is proficient in this area and performs at a level exceeding level of training.	<b>Confidence level is at a high level and the student can complete assigned tasks within the allotted time frame. The student must work on his/her speed.</b>
<b>COMPETENT (85%)</b>	Performance is within the range expected for students at this level and time of year.	<b><u>Many</u> prompts are necessary to help the student perform routine tasks; however objectives are completed within the acceptable time frame.</b>
<b>MINIMALLY MEETS EXPECTATIONS (75%)</b>	Student's performance does not reflect anything more than the minimal level of competence.	<b><u>Constant</u> intervention from the technologist is necessary for the student to complete the simplest of the rotation's objectives.</b>
<b>DOES NOT MEET EXPECTATIONS (0%)</b>	Student fails to meet the basic knowledge and skills expected for this level of education.	<b>Student <u>does not</u> perform the objectives for the rotation although he/she was shown. Additionally, the student makes excuses or only observes the procedures/objectives.</b>
<b>NOT OBSERVED (NO)</b>	<b>Objective was <u>not shown</u> or <u>required</u> during the rotation.</b>	<b>Verification will be assessed through patient and procedure logs kept by the department and stated objectives for the rotation.</b>
<b>COMPETENT (100%)</b>	<b>Student displays behaviors on a consistent basis</b>	
<b>NOT YET COMPETENT (0%)</b>	<b>Student does not display behaviors on a consistent basis</b>	

<b>Objectives</b>	<b>Competent</b>	<b>Not Yet Competent</b>
<b>Affective Domain</b>		
<b>Integrity</b> Examples of professional behavior include but are not limited to: Consistent honesty; being able to be trusted with the property of others; can be trusted with confidential information; complete and accurate documentation of patient care and learning activities.		
<b>Empathy</b> Examples of professional behavior include, but are not limited to: Showing compassion for others; responding appropriately to the emotional response of patients and family members; demonstrating respect for others; demonstrating a calm, compassionate, and helpful demeanor toward those in need; being supportive and reassuring to others.		
<b>Self-Motivation</b> Examples of professional behavior include but are not limited to: Taking initiative to complete assignments; taking initiative to improve and/ or correct behavior; taking on and following through on tasks without constant supervision; showing enthusiasm for learning and improvement; consistently striving for excellence in all aspects of patient care and professional activities; accepting constructive feedback in a positive manner; taking advantage of learning opportunities		
<b>Appearance and personal hygiene</b> Examples of professional behavior include but are not limited to: Clothing and uniform is appropriate, neat, clean and well maintained; good personal hygiene and grooming.		
<b>Self-confidence</b> Examples of professional behavior include but are not limited to: Demonstrating the ability to trust personal judgement; demonstrating an awareness of strengths and limitations; exercises good personal judgement.		
<b>Communications</b> Examples of professional behavior include but are not limited to: Speaking clearly; writing legibly; listening actively; adjusting communication strategies to various situations		
<b>Time Management</b> Examples of professional behavior include but are not limited to: Consistent punctuality; completing tasks and assignments on time.		
<b>Teamwork and Diplomacy</b> Examples of professional behavior include but are not limited to: Placing the success of the team above self interest; not undermining the team; helping and supporting other team members; showing respect for all team members; remaining flexible and open to change; communicating with others to resolve problems.		
<b>Respect</b> Examples of professional behavior include but are not limited to: Being polite to others; not using derogatory or demeaning terms; behaving in a manner that brings credit to the profession.		
<b>Patient Advocacy</b> <b>Examples of professional behavior include but are not limited to: Not allowing personal bias or feelings to interfere with patient care; placing the needs of patients above self-interest; protecting and respecting patient confidentiality and dignity.</b>		

<b>Objectives</b>	<b>Exceptional</b>	<b>Advanced</b>	<b>Competent</b>	<b>Minimally meets</b>	<b>Does NOT meet</b>	<b>Not Observed</b>
<b>Radiation Safety</b>						
Wears radiation monitors at all times and has lab coat on and buttoned when in the department.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitors hands at required times (after handling radiopharmaceuticals, radioactive patients, and bodily fluids.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Practices time, distance and shielding.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does not eat, drink or chew gum in restricted areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Instrumentation, Quality Control and Procedures</b>						
Peaks and calibrates the camera equipment for daily radionuclides when required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performs assigned room/departmental QC (floods, GM counter calibration, surveys, wipe tests, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifies and/or changes the collimator for each imaging procedure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verifies Doctor's orders for each procedure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Validates the identity of each patient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explains procedure to the patients and completes all necessary paper work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
According to the rotation/technologist assignment, the student properly calculates, assays and injects radiopharmaceuticals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Imaging room prepared for the procedures prior to the arrival of the patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct computer parameters are implemented prior to the start of each procedure. (Semester and knowledge based dependent)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student acquires all the necessary images for each procedure and/or patient pathology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student performs and understands when additional images are necessary for the patient's pathology and/or procedure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student critiques images for proper placement, anatomy, pathology and image intensity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Completes computer analysis along with capturing, displaying and developing film.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performs all necessary nursing procedures during the time a patient is in the department.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student can identify normal and abnormal pathology during procedure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student can correlate imaging technique with patient's pathology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Student washes his/her hands after each patient and procedure.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**COMMENT PAGE**

Overall, how would you rate the student's ability in the following areas?

- **Affective Domain**

Attitude, criticism and working well with staff and patients

Exceptional	
Advanced	
Competent	
Minimally meets expectations	
Does not meet expectations	
Not observed	

- **Radiation Safety**

Abides by all NRC regulations and department rules 100% of the time.

Exceptional	
Advanced	
Competent	
Minimally meets expectations	
Does not meet expectations	
Not observed	

- **Instrumentation**

Camera and hot lab quality control

Exceptional	
Advanced	
Competent	
Minimally meets expectations	
Does not meet expectations	
Not observed	

- **Procedures**

Understanding technique, pathologies and radiopharmacy

Exceptional	
Advanced	
Competent	
Minimally meets expectations	
Does not meet expectations	
Not observed	

- **Computer**

Imaging acquisition set-up and computer processing

Exceptional	
Advanced	
Competent	
Minimally meets expectations	
Does not meet expectations	
Not observed	

**COMMENT PAGE**

1. Please list and define the student's strong points during the rotation.
2. Please list and define the student's weak points during the rotation.
3. Please list the skills the student needs to work on to improve his/her performance
4. Did any problems or conflicts arise during the clinical rotation?
5. Please defend why you gave the student all exceptional and/or does not meet expectations grades for each objective.



## CLINICAL PROCEDURAL COMPETENCY

Indicate the student's ability by utilizing the following criteria:	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<i><b>Clinical Objectives</b></i>	<b>NA</b>	<b>0/F</b>	<b>1</b>	<b>3</b>	<b>4/P</b>
1. Verify the Order.					
2. Identify the patient (using at least 2 identifiers)					
3. Complete patient history and pregnancy form (for female patients).					
4. Explain the procedure to the patient.					
5. Communicate with the patient throughout the procedure answering any questions that might arise.					
6. The student wears proper radiation monitoring equipment and lab coat throughout entire procedure					
7. The student assesses the patient's needs and vital signs throughout the procedure. Administer any necessary patient care.					
8. Student washes hand before and after patient contact.					
9. Calibrate the camera for the specific radionuclide and procedure.					
10. Identify and/or change the collimation for the imaging procedure.					
11. Set-up acquisition techniques for specific imaging procedures.					
12. Performs necessary computer processing in a timely manner and without assistance.					
13. Formats and labels all images.					
14. Properly positions the patient.					
15. Obtains all views necessary to complete the study.					
16. Produces a quality study according to clinical site's protocol. (Proper amount of counts or time for each view were obtained.)					
17. Demonstrates an understanding of the study's interpretation.					
18. Places images and all paperwork with the correct file.					
19. Checks completed study with the appropriate physician and/or technologist.					
20. Coordinates the need for any other procedures or calls for the return to patient's room.					
21. Explains to the patient the method of physician reporting.					
22. Prepares the room for the next patient.					

Did the Student use their notebook to perform any aspects of the procedure?    Yes or No  
 (5 point deduction from competency grade)

**Comments:**

## Blood Volume Procedure Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<u><b>Clinical Objectives</b></u>	<b>NA</b>	<b>0/F</b>	<b>1</b>	<b>3</b>	<b>4/P</b>
1. Verify the Order.					
2. Identify the patient (using at least 2 identifiers)					
3. Complete patient history and pregnancy form (for female patients).					
4. Explain the procedure to the patient.					
5. The student wears proper radiation monitoring equipment, lab coat and goggles through out entire procedure.					
6. Student washes hand before and after patient contact.					
7. The student communicates with the patient throughout the procedure answering any questions that might arise.					
8. The student assesses the patient's needs and vital signs throughout the procedure. Administer any necessary patient care.					
9. All equipment is prepared prior to patient's arrival in department.					
10. All test tubes are labeled correctly prior to patient's arrival in department.					
11. Dose assayed and lot number identified and recorded.					
12. Dose injected into patient using proper technique.					
13. Samples drawn at appropriate times and documented correctly.					
14. Correct method of drawing samples and flushing IV line utilized.					
15. Any change in patient's position or problems with the IV line are documented properly.					
16. Hematocrit tubes are processed in a timely manner.					
17. Blood is spun in a timely fashion ensuring that centrifuge is balanced.					
18. Plasma is pipetted correctly while using proper safety precautions.					
19. The student places test tubes and patient information into the machine correctly and in a timely fashion.					
20. The student checks completed study with the appropriate physician and/or technologist.					
21. The student demonstrates an understanding of the study's interpretation.					
22. The student coordinates the need for any other procedures or calls for the return to patient's room.					
23. The student explains to the patient the method of physician reporting.					
24. The student cleans and prepares area for next exam.					

Did the Student use their notebook to perform any aspects of the procedure?    Yes    Or    No  
 (5 point deduction from competency grade)

**Comments:**

## PET Procedure Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<u><b>Clinical Objectives</b></u>	<b>NA</b>	<b>0/F</b>	<b>1</b>	<b>3</b>	<b>4/P</b>
1. Verify the Order.					
2. Identify the patient (using at least 2 identifiers)					
3. Complete patient history and pregnancy form (for female patients).					
4. Explain the procedure to the patient.					
5. Student checks patient's glucose level and records results in a timely manner.					
6. Student washes hands before and after patient contact.					
7. Communicate with the patient throughout the procedure answering any questions that might arise.					
8. Assesses the patient's needs and vital signs throughout the procedure. Administer any necessary patient care.					
9. Student selects appropriate acquisition parameter (2D vs. 3D and appropriate number of beds)					
10. Student selects patient parameters correctly. (moving in/ moving out, head first/ feet first)					
11. Performs necessary computer processing in a timely manner and without assistance.					
12. Properly positions the patient.					
13. Obtains all views necessary to complete the study.					
14. Produces a quality study. (no artifacts or catheters in images)					
15. Demonstrates an understanding of the study's interpretation.					
16. Places images and all paperwork with the correct file.					
17. Checks completed study with the appropriate physician and/or technologist.					
18. Coordinates the need for any other procedures or calls for the return to patient's room.					
19. Explains to the patient the method of physician reporting.					
20. Prepares the room for the next patient.					

Did the Student use their notebook to perform any aspects of the procedure?    Yes or No  
(5 point deduction from competency grade)

**Comments:**

## Therapy or Non Imaging Procedure Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<b>Clinical Objectives</b>	<b>NA</b>	<b>0/F</b>	<b>1</b>	<b>3</b>	<b>4/P</b>
1. Student verifies doctor's order, if simulated can explain indication for therapy.					
2. The student correctly identifies the patient, if simulated knows which identifiers are acceptable. (using at least two identifiers)					
3. Completes patient history and pregnancy form (If simulated can verify all lab values and serum pregnancy results are within limits).					
4. The student verifies patient prep was completed properly prior to treatment (medications and dietary restrictions were followed).					
5. The student has all necessary paperwork and supporting documents ready for the physician and the patient. (ie consent form, lab results, previous diagnostic results, radiopharmaceutical dose amount) If simulated, student knows what forms are needed and where they are stored)					
6. The student can explain the procedure to the patient / technologist.					
7. The student communicates with the patient throughout the procedure answering any questions that might arise (if simulated is able to answer questions by technologist).					
8. The student wears proper radiation monitoring equipment and lab coat throughout entire procedure.					
9. The student assesses the patient's needs and vital signs throughout the procedure. Administer any necessary patient care					
10. The student washes hand before and after patient contact					
11. The student calibrates the camera for the specific radionuclide to verify IV patency (if applicable)					
12. The student sets up acquisition technique (if applicable)					
13. The student properly positions the patient (if applicable)					
14. The formats and labels images (if applicable)					
15. Patient is given shielded dose in a timely and efficient manner.(if simulated, student can verbalize radiopharmaceutical dose, amount and route of administration)					
16. The student places all paperwork with the correct file					
17. The student coordinates the need for any other procedures or calls for the return to patient's room (if simulated can verbalize the need for additional monitoring, additional imaging or additional treatments).					
18. The student explains to the patient the method of physician reporting (if simulated can explain to technologist).					
19. The student checks completed study with the appropriate physician and/or technologist.					
20. The student demonstrates an understanding of the treatment.					
21. Room/ area is properly cleaned and prepared for next patient.					

Did the Student use their notebook to perform any aspects of the procedure?    Yes or No  
**(5 point deduction from competency grade)**

## Generator Elution Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<b><i>Clinical Objectives</i></b>	<b>NA</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>
1. The student wears gloves throughout procedure.					
2. The student wears proper radiation monitoring equipment, lab coat and goggles through out entire procedure.					
3. The student verifies QC was completed on the dose calibrator prior to beginning procedure.					
4. The student selects appropriate size evacuation vial and saline vial.					
5. The student places saline vial onto generator correctly.					
6. The student places evacuation vial into "milking" cradle correctly.					
7. The student elutes generator correctly and in a timely manner					
8. The student selects correct operation on dose calibrator ( Moly Assay, Capintec or canister)					
9. Student obtains Molybdenum background with out assistance.					
10. The student places elution into appropriate shield and obtains Molybdenum breakthrough.					
11. The student records results of Molybdenum breakthrough.					
12. The student assays and records the elution activity and volume.					
13. The student places elution into proper lead vial and attaches label in a timely manner.					
14. The student enters all elution information into the computer and prints label in a timely manner.					
15. The student practices radiation safety through out entire procedure. (ex. Uses tongs)					
16. The student disposes of gloves in appropriate receptacle.					
17. The student followed USP 797 guidelines throughout procedure.					
18. The student monitors hands and records results prior to leaving hot lab.					

**Comments:**

### Injection through IV Competency

Indicate the student's ability by utilizing the following criteria:	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

Clinical Objectives	NA	0/F	1	3	4/P
The student verifies the doctor's orders.					
The student correctly identifies the patient.(using 2 identifiers)					
The student effectively communicates instructions to the patient.					
All patient paper work is completed and filled out properly.					
<b><u>The student wears gloves throughout the procedure.</u></b>					
The student wears proper radiation monitoring equipment and lab coat through out injection.					
The student wears goggles throughout procedure.					
The student identifies correct site/port for injection.					
The student cleans injection site properly.					
The student flushes IV line to verify patency.					
The student follows all procedural guidelines for radioactive administration.					
The student uses the proper syringe shield while injecting.					
Injects patient on the first attempt.					
The student removes the needle correctly or unscrews syringe correctly.					
The student flushes IV line correctly after injection of radioactivity.					
Radioactive material is discarded correctly and in a timely manner. (according to clinical site's procedure)					
Monitors hands after injection in a timely manner.					
The student washes hands before and after patient contact.					

**Comments:**

## IV start Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<b>Clinical Objectives</b>	<b>NA</b>	<b>0/F</b>	<b>1</b>	<b>3</b>	<b>4/P</b>
The student verifies the doctor's orders.					
The student correctly identifies the patient. (using at least 2 identifiers)					
The student effectively communicates instructions to the patient.					
All patient paperwork is completed and filled out properly.					
Student wears lab coat and goggles throughout entire procedure.					
The student assembles IV supplies prior to starting the IV and chooses correct gauge catheter.					
The student places the tourniquet on patient's arm correctly.					
<b><u>The student wears gloves throughout the procedure.</u></b>					
The student identifies correct vein and location for injection.					
The student cleans injection site properly.					
IV insertion is successful on the first attempt and in a timely manner.					
The student removes tourniquet at the appropriate time.					
The student retracts and removes the needle correctly.					
The student secures tubing to the catheter.					
The student adequately secures IV with tape.					
The student checks IV line for patency.					
The student discards all disposable articles in the proper containers.					
The student washes hands before and after patient contact.					

**Comments:**

## Kit Preparation Competency

Indicate the student's ability by utilizing the following criteria:	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<b>Clinical Objectives</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>
The student correctly identifies what radiopharmaceutical to use.				
The student calculates the correct amount of activity and proper volume to draw prior to starting procedure.				
<b><u>The Student wears gloves throughout the procedure.</u></b>				
The student wears proper radiation monitoring equipment and lab coat through out injection.				
The student adheres to USP 797 guidelines when compounding, if applicable (proper garbing and performs using sterile technique)				
The student places the kit into the correct lead shield.				
The student cleans the kit rubber properly.				
The student uses the proper syringe shield.				
The student labels syringe correctly prior to placing needle in vial.				
Radioactive material is placed aseptically into the correct vial.				
The appropriate amount of saline is aseptically added to kit. (using a separate syringe)				
The student removes appropriate amount of nitrogen from kit.(after both technetium and saline injections)				
The student assays the kit and records results.				
All paper work and/or computer work is completed and filled out properly.				
The student labels the kit properly and in a timely manner.				
The student practices radiation safety throughout entire procedure.(ex uses tongs)				
The student disposes of gloves in appropriate receptacle.				
The student monitors hands after kit preparation in a timely manner.				
The student washes hands after kit preparation in a timely manner.				

**Comments:**



## Package Receipt Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<b><u>Clinical Objectives</u></b>	<b>NA</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>
1. The student wears gloves throughout procedure.					
2. The student wears proper radiation monitoring equipment and lab coat through out entire procedure.					
3. The student verifies QC was completed on the well counter and GM counter prior to beginning procedure.					
4. The student monitors the package at 1 meter and records results correctly.					
5. The student monitors the package at surface and records results correctly.					
6. The student verifies that the TI listed on the package and the results of the GM readings correlate.					
7. The student swipes the package correctly. (uses correct method and knows the proper amount of area to cover)					
8. The student counts the swipe for the correct amount of time and on the proper isotope setting.					
9. The student opens the package correctly and swipes the interior of the package (if site requires).					
10. The student identifies that the packing slip and the product match.					
11. The student enters all package receipt information into the computer correctly.					
12. The student converts CPM to DPM correctly.					
13. The student defaces radioactive package label and words prior to discarding the package.					
14. The student turns radioactive label around after emptying package contents.					
15. The student disposes of gloves in appropriate receptacle.					
16. The student monitors hands and records results prior to leaving hot lab.					

Did the Student use their notebook to perform any aspects of the procedure?    Yes or No  
 (5 point deduction from competency grade)

**Comments:**

## Straight Stick Competency

<b>Indicate the student's ability by utilizing the following criteria:</b>	
N/A	Not applicable
0	Unacceptable; the skill was not performed or the student needed extensive assistance to perform the task. (The student has failed the competency)
1	Improvement needed; some portions of the task were performed adequately, however instruction and supervision are still needed
3	Acceptable; performed task without assistance, level of skill is good, however the student must develop greater speed and confidence.
4	Excellent; performed objectives at a level that displayed accuracy, speed and confidence.

<b><u>Clinical Objectives</u></b>	<b>NA</b>	<b>0/F</b>	<b>1</b>	<b>3</b>	<b>4/P</b>
Student verifies doctor's orders.					
The student correctly identifies the patient.(using 2 identifiers)					
The student effectively communicates instructions to the patient.					
All patient paper work is completed and filled out properly.					
The student wears proper radiation monitoring equipment, lab coat and goggles through out injection.					
<b><u>The student wears gloves throughout the procedure.</u></b>					
The student identifies correct radiopharmaceutical prior to injection.					
Student verifies radiopharmaceutical dose activity and volume prior to injection.					
The student places tourniquet on patient's arm correctly.					
The student cleans injection site properly.					
Injects patient on first attempt with correct gauge needle and syringe.					
The student uses the proper syringe shield while injecting.					
The student removes the tourniquet and needle correctly and recaps needle correctly (if applicable).					
The student applies pressure and band aid to the injection site.					
Radioactive material is discarded correctly and in a timely manner. (according to clinical site's procedure)					
The student monitors hands after injection in a timely manner.					
The student washes hands before and after patient contact.					

**Comments:**