

**BAPTIST HEALTH SCHOOLS  
LITTLE ROCK**

**SCHOOL**

**OF**

**NUCLEAR MEDICINE  
TECHNOLOGY**

**STUDENT HANDBOOK  
2009- 2010**

OWNED AND SPONSORED BY: Baptist Health, Little Rock, Arkansas  
Operated by: Baptist Health Medical Center-LR  
Baptist Health Medical Center-NLR

## **HISTORY**

The Baptist Health School of Nuclear Medicine Technology was founded in 1979 as a clinical affiliate of St. Vincent Infirmary. The hospital-based program was transferred to the sponsorship of Baptist Health in 1987. The school has maintained full accreditation since its initial accreditation in 1988 by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) and is licensed by the Arkansas State Board of Private Career Education. The school is affiliated with the University of Central Arkansas for a 3 + 1 baccalaureate program, with UCA granting the graduate a baccalaureate degree from that university at the conclusion of the program.

## **MISSION**

The Baptist Health School of Nuclear Medicine Technology exists to fulfill the demand for highly skilled and competent Nuclear Medicine Technologists within Baptist Health as well as in the surrounding community. The School is committed to providing students with the highest standards of education and training.

## **PHILOSOPHY**

The School upholds the Philosophy and Values of Baptist Health by encouraging Service, Honesty, Respect, Stewardship and Performance with a commitment to providing quality patient care. Christian ideas, attitudes and spiritual perspectives as they apply to the caring of the patient are emphasized, as well as personal and professional conduct.

It is the School's belief that a competent individual in the health care field of today, must not only prove to be proficient in the field of Nuclear Medicine Technology, but must also possess an appreciation of his/her role within the clinical setting and an understanding of the organizational culture affecting the work environment.

In order to assure that the student acquires this competency, ethical principles, Christian values and management skills are interrelated with the practice of Nuclear Medicine Technology.

The School is committed to providing competent, entry-level job graduates to Baptist Health and the healthcare community through its high standards of professional education.

## **PROGRAM GOALS**

The goals of the School of Nuclear Medicine Technology serve as a framework for the program of study and instruction for the development of a graduate who demonstrates:

1. Competency in the performance of the duties of an entry level Nuclear Medicine Technologist.
1. The ability to provide proper comfort and care to the patient prior to, during and after a procedure.
2. Application of the art and skill of diagnostic evaluation and therapeutics through the safe and effective use of radionuclides.
4. Professionalism in the performance of responsibilities such as patient interviews and instruction, preparation, quality control testing and administration of prescribed radioactive compounds for therapy, quality control and radiation safety.
5. Proper execution of patient imaging and non-imaging procedures including the selection of appropriate imaging parameters, administering radiopharmaceuticals and/or pharmaceuticals, data collection, processing and analysis in accordance with established protocols while demonstrating an empathetic and instructional approach to patient care.

6. Application of knowledge of radiation physics and safety regulations to limit radiation exposure of the general public, patient, fellow workers, and self to as low as reasonably achievable (ALARA).
7. The ability to perform quality assurance procedures as required by various regulatory agencies and to evaluate the performance of both imaging and non-imaging equipment based on the outcomes of these procedures.
8. Professional growth and development through participation in medical and technical education to enhance the quality of patient care.
9. Commitment to making a significant contribution to the healthcare team by an understanding of departmental organization and function in relation to the healthcare delivery system as a whole.
10. Development of a holistic caregiver's perspective and an appreciation and respect for cultural diversity.
11. The knowledge and ability to successfully pass the NMTCB and ARRT (N) registries.

**ADMINISTRATION**

|  |  |
|--|--|
| Russell D. Harrington, FACHE.....              | President, Baptist Health  |
| Allen F. Smith, B.A.....                       | Sr. Vice President, Baptist Health   |
| Judy I. Pile, Ph.D.....                        | Assistant Vice President, Education  |
| Gordon Ward.....                               | Dean, Allied Health and Administration                                       |
| Kevin Forte, M.D.....                          | Medical Director, Baptist Health<br>School of Nuclear Medicine<br>Technology |
| Sharon S. Ward MA, CNMT, ARRT(N), ASCP(N)..... | Program Director, Baptist Health<br>School of Nuclear Medicine<br>Technology |
| David Fox MBA, B.S., CNMT.....                 | Director, BHMC-LR Radiology Dept.  |

**CLINICAL FACULTY**

**Baptist Health Medical Center Little Rock**

|                                      |                           |
|--------------------------------------|---------------------------|
| Brad Temple BS, CNMT, RT(N).....     | Clinical Supervisor       |
| Ed Horvath BS, CNMT, RT(N).....      | Lead Technologist         |
| Janet Jackson BS, RT(R)(CT).....     | Supervisor CT/Nuclear Med |
| Mike Banman M.Div., CNMT, RT(N)..... | Staff NMT                 |
| Tiago Lewis.....                     | Staff NMT                 |

**Baptist Health Medical Center North Little Rock**

|                                       |                     |
|---------------------------------------|---------------------|
| Susan Hensley BS, CNMT, RT(R)(N)..... | Clinical Supervisor |
| Melody Etherton BS, CNMT, RT(N).....  | Staff NMT           |
| Jason Lee BS, CNMT.....               | Staff NMT           |
| Donna Nelson BS, CNMT, RT(N).....     | Staff NMT           |
| Darren Branch BS, CNMT.....           | Staff NMT           |

**Heart Clinic Arkansas**

Beth Russell BS, CNMT, RT(N) .....Clinical Supervisor  
 Charlie Whiting BS, CNMT, RT(N) .....Staff NMT  
 TJ Videll BS, CNMT, RT(N).....Staff NMT

**Little Rock Hematology/Oncology Diagnostic Imaging and PET/CT**

Monica Prince .....Clinical Supervisor  
 Miranda Armer.....Staff NMT  
 Jill Roberts .....Staff NMT

**Arkansas Children’s Hospital**

Allen Kinsey BS, CNMT, RT(N).....Clinical Supervisor  
 Tony Lature.....NM Supervisor  
 Jeanne Warren.....Staff Technologist

**Cardinal Health Radiopharmacy Services**

Kevin Hughes, PD.....Clinical Supervisor  
 April Sanders, PD .....Pharmacy Manager  
 Melissa Christopher .....Radiopharmacist  
 Jason Luper .....Radiopharmacist  
 Jill Rosseman .....Radiopharmacist  
 Dorita Wittenburg .....Radiopharmacist

**ADMINISTRATION AND OPERATIONAL RESPONSIBILITIES**

The Assistant Vice President of the Baptist Health Schools-Little Rock has overall administrative authority and responsibility for all schools and employee development within the department. The Program Director of the School of Nuclear Medicine Technology has overall operational responsibility with specified administrative authority. The supervisors and coordinators of the clinical Nuclear Medicine departments at the various clinical sites assist both the Director and Program Director with their responsibilities and serves as their designee in the clinical development of students during their rotation assignments. Respective clinical supervisors have direct input to policy development and operations through the BHSLR Assistant Vice President of Education and other means.

**ACADEMIC PROGRESS**

Students are required to attend all scheduled classes and clinical rotations.

The grading scale of the School of Nuclear Medicine Technology for the didactic and clinical curriculum is presented below:

| <b>GRADE</b> | <b>RANGE %</b>   | <b>VALUE</b> |
|--------------|------------------|--------------|
| A            | 94-100           | 4            |
| B            | 86-93            | 3            |
| C            | 77-85            | 2            |
| D            | 70-76            | 1            |
| F            | 69 - 0           | 0            |
| WP           | Withdrew Passing | 0            |

|     |                                      |   |
|-----|--------------------------------------|---|
| WF  | Withdrew Failing                     | 0 |
| AWP | Administrative Withdrawal<br>Passing | 0 |
| AWF | Administrative Withdrawal<br>Failing | 0 |
| I   | Incomplete                           | 0 |

Value points are used in the calculation for the determination of the Grade Point Average (GPA). The grade point average is the academic standard that serves many purposes, three (3) examples being:

1. Honors recognition at the Commencement Ceremony.
2. Baptist Health Foundation Scholarship Awards.
3. Approval of Baptist Health Student Loan Program (if available).

Student academic and clinical achievement is measured periodically by written, oral and practical examinations.

A student is required to maintain a minimum final grade of “C” (77% in each course and clinical rotation). Failure to do so may result in Academic Dismissal. In addition, the student is expected to achieve clinical competency in all mandatory and elective procedures as described in the ARRT handbook.

Student grades and credits for courses shall be recorded and permanently maintained by the sponsoring institution. The program shall maintain the student’s records permanently, and transcripts can be requested from the program by the graduate for a specified fee at any time.

Clinical grades are tabulated from the rotational clinical evaluations of the student by the clinical Nuclear Medicine Technologist or Radiopharmacist with whom the student is rotating. The clinical instructor is to go over the rotation evaluation with the student in a timely manner and discuss any deficiencies that are present. If the evaluation is lower than required, counseling and assistance is given either by the clinical instructor, Program Director, and/or school counselor. Counseling sessions are documented and placed in the student’s record.

Evaluation outcomes are developed from the objectives and competencies as described in the curriculum for both academic and supervised clinical education components. These outcomes are calculated at the end of each semester and shared with the student. Students not meeting the necessary clinical or didactic achievement levels expected may be placed on probation for a specified period of time. During probation, student evaluations are closely monitored, clinical deficiencies are discussed and a plan for improvement is implemented and documented. Students are counseled, given assistance (extra practice, and so forth) and other additional support.

A student not demonstrating the necessary progressive development in classroom and clinical education shall not be allowed a second probationary period.

An incomplete “I” grade may be completed at the sole discretion of the Program Director. If not completed by the established time, “I” will convert to a final grade of “F.”

### **Satisfactory Progress**

The student must maintain a 2.0 or higher grade point average (GPA) in each course and clinical rotation. If at any time the student’s average is less than required, he or she shall be placed on Academic Probation. A student who does not obtain the required GPA during a probationary period may be academically terminated (*see section on “Remediation”*).

## **APPLICATION AND ENTRY PROCESS**

The application process is initiated when the school first receives a required document/material from the applicant. An applicant file is then established. Once all required information and materials are received, the applicant is scheduled for a personal interview with the selection committee. The interview completes the application process.

The paramount responsibility of the school is protection of the public in the selection of applicants, education and promotion of students through the program of study and graduation of individuals for entry into the profession. This responsibility is fulfilled through established policies and corresponding process decision-making activities.

The application process is initiated upon receipt of a completed application form and continues with the receipt of an official transcript from an accredited college/university reflecting a baccalaureate degree or completion of the prescribed pre-professional curriculum at the University of Central Arkansas for a Bachelor of Science degree in Nuclear Medicine Technology. In addition, the transcript must reflect successful completion with a "C" or higher in each of the following courses: College Algebra, College Chemistry, College Physics and Human Anatomy and Physiology.

The applicant completes two (2) processes before admission to the program is complete: the Application Process and the Entry Process. Specific materials and information are required for each.

### **Application Requirements**

1. Submission of a completed Application for Admission Form.
2. One (1) official transcript from each educational institution attended; and either an official high school transcript reflecting a minimum cumulative Grade Point Average (GPA) of 2.5 or higher or a General Education Diploma (GED) minimum composite score of 50 or higher.
3. A baccalaureate degree from an accredited college or university (4+1) program.
4. Have three years of prescribed curriculum from the University of Central Arkansas with a cumulative GPA of 2.5 or higher and eligible to receive a B.S. degree upon completion of the program from the affiliate (3 + 1 program).
5. Foreign students must have a TOFEL (Test of English as a Foreign Language) examination and obtain a minimum score of 550 or a computer-based score of 213.
6. American College Test (ACT) results reflecting a minimum score of 21 is recommended.
7. Completed Personal Statement Form.
8. Two (2) personal recommendations from teachers, clergy or employer personnel; family members are not acceptable.
9. Complete Demographic Data Form (optional).
10. Personal interview with the Selection Committee.
11. Provide additional information as requested by the school.
12. Criminal Background Check (CBC) and Social Security Verification (SSV) forms signed and the process initiated at Registration.

11. Satisfactory completion of the application process.\*

\*Satisfactory completion indicates that all application requirements have been fulfilled by the applicant.

### **Entry Requirements**

1. Immunization record reflecting dates of the following: Mumps, Measles, Rubella, Tetanus, Tuberculin Skin Test;
2. Hepatitis B immunization series or waiver;
3. Ability to perform Fundamental Essential Functions on Entry Statement signed;
4. Official Grade Report for high school/college courses enrolled in at time of application and a letter of verification from the respective School/College Counselor/Advisor;
5. Submission of health professional certification or license for visual observation as applicable;
6. Completion of entry registration;
7. Participate in the New Student Orientation Program (NSOP); sign all Informed Statement Contracts;
8. Provide additional information as required by school; and
9. Satisfactory completion of entry process.\*

\*Satisfactory completion is defined as fulfillment of all entry requirements.

### **Entry and Graduation**

The entry registration and graduation dates are reflected on the school calendar herein contained.

### **Prerequisite Requirements**

Completion of prerequisites with a minimum final grade of "C" in the following courses:

1. 3 semester hours College Algebra
2. 4 semester hours General Inorganic Chemistry
3. 4 semester hours College Physics
4. 4 semester hours Human Anatomy and Physiology

### **Application Final Date**

In accordance with the entry registration date, the Selection Committee must complete its work prior to arrival of the entering class. In order to facilitate selection of the incoming new class and its entry registration, a preferred application final date of February 1<sup>st</sup> has been established. The applicant process must be completed by February 15<sup>th</sup>.

### **Selection Committee**

The Selection Committee conducts a personal interview with each applicant. Each applicant who completes the

application process is reviewed for acceptance through an individualized, competitive and nondiscriminatory basis by the Selection Committee. Acceptance for entry to the School is on a competitive basis as opposed to a first come first serve. The highest qualified applicants are first accepted from the applicant pool composed of individuals who have completed the application process. The process is followed until the prescribed class size is reached. The focus of the interview is on the applicants' rationale for pursuing the program of study, and on the written personal references reflecting assessment of attitude, integrity, motivation and ability. The committee consists of the Program Director of the school and one to two other panel members who may be faculty members of Baptist Health Schools Little Rock and/or Clinical Faculty from the Nuclear Medicine Departments at BHMC-LR or BHMC-NLR. The interview completes the application process.

### **Selection Process**

The Selection Committee reviews each Applicant File for entry to the school after the File is complete. Selection for entry is on a competitive basis, as each entering class is limited in number. The committee formulates a recommendation for each applicant and forwards it to the Program Director for final action. The applicant is notified within two weeks after the interview of the decision.

The process of selection includes a review of the completed Applicant File and the personal interview score(s). Each applicant is ranked according to qualifications, with the highest qualified being number one (1). The process is continued until the class is filled. Qualified applicants not included in the selected class number, are placed on the Alternate List.

The highest qualified alternate is ranked number one (1) and so on. Alternates are notified by rank number if spaces in the class become available. Alternates are strongly encouraged to keep their file active by contacting the Program Director, and obtaining academic advice. Alternate status does not guarantee the applicant a future position in the next entering class or any future class. The alternate should contact the Program Director before March 1<sup>st</sup> deadline of the next school year and request that the file be kept active. If the time since last inquiry is greater than one (1) calendar year, the individual must update the file as requested by the school.

Applicants selected for entry are expected to notify the school of intent to register by returning a special form to the school prior to a registration date. Selected applicants not registering, who seek admission at a later date, have no preferential status and will be reconsidered for acceptance at the time as new applicants for the next class.

### **OBJECTIVES OF THE COMPETENCY BASED CURRICULUM**

In order for a School of Nuclear Medicine Technology to be accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT), a minimum level of competency in specific areas of knowledge and understanding must be attained by the time the student graduates. These areas are presented in their broadest terms: more information is provided in specific objectives in course syllabi and clinical performance objectives. After completing the program, each student should have attained a level of knowledge and skill to be capable of performing the various tasks required of an entry-level Nuclear Medicine Technologist as defined in the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) guidelines:

1. Patient Care
  - 1.1 Acquiring adequate knowledge of the patient's history to understand and relate to the patient's illness and the pending diagnostic or therapeutic procedures
  - 1.2 Providing for proper comfort and care of the patient before, during and after a procedure including, but not limited to the monitoring of intravenous lines, oxygen supplies, drains and the status of patients who are under sedation

- 1.3 Recognizing surgical and disease factors that may create artifacts of variants on all nuclear medicine images including PET images, and thus require modifications in the data acquisition or data processing protocol
  - 1.4 Establishing and maintaining good communication with each patient (e.g. making introductions, explaining the procedures, answering questions)
  - 1.5 Providing functionally safe and sanitary conditions for the patient in compliance with standard precaution policies
  - 1.6 Recognizing and responding to an emergency condition by initiating a call for assistance, monitoring and recording physiologic data, administering cardiopulmonary resuscitation when necessary and maintaining intravenous fluids, oxygen, and other life-support assistance until an emergency code team arrives
  - 1.7 Prepares a patient for an examination by reviewing written orders for the procedure, verifying patient identification and determining pregnancy status as well as breast feeding status; obtaining a pertinent history and checking for contraindications; measuring peripheral blood glucose level prior to PET imaging; ensuring that informed consent has been obtained when necessary; explaining the procedure to the patient or family and, where applicable, to the parents or legal guardian including, but not limited to, the procedure, patient involvement, length of study, and basic radiation safety; ensuring that any pre-procedural preparation has been completed; waiting an appropriate length of time after the administration of a radiopharmaceutical to begin the procedure; checking patient clothing and linen for objects that may cause artifacts in the images or the proposed measurements.
2. Radiation Safety
- 2.1 Maintaining compliance with local, state and federal regulations in radiation safety practices by under the supervision of an authorized user or radiation safety officer by:
    - 2.1.1 Using personnel monitoring devices (e.g. dosimeters, film badges, TLD's etc.) and reviewing on a quarterly basis personnel exposure records in regard to maximum permissible dose limits, taking appropriate measures to follow the ALARA principle, and notifying appropriate authorities when changes occur in the radiation safety program
    - 2.1.2 Notifying appropriate authorities when changes occur in the radiation safety program
    - 2.1.3 Assisting in the preparation of license amendments when necessary
    - 2.1.4 Maintaining required records
    - 2.1.5 Posting appropriate signs in designated areas
    - 2.1.6 Following federal, state and institutional regulations regarding receipt and disposition of all radionuclides.
    - 2.1.7 Carrying out programs to follow regulations regarding therapeutic dosages and follow-up procedures
    - 2.1.8. Recommending purchase of protective equipment to meet regulations

- 2.1.9 Packaging radioactive material according to regulations and keeping accurate records of transfer
- 2.2 Follows appropriate protection procedures thereby limiting the radiation exposure of the patient, public, fellow workers, and self as to as low a level as reasonably achievable (ALARA) by:
  - 2.2.1 Selecting and using proper shielding to reduce radiation exposure
  - 2.2.2 Using proper methods for storage and disposal of radioactive materials
  - 2.2.3 Identifying and using proper procedures for those radionuclides that pose special hazards (e.g.  $^{85}\text{Sr}$ ,  $^{131}\text{I}$ , 511 keV radiotracers)
- 2.3 Performs radiation surveys by:
  - 2.3.1 Ensuring that instruments are calibrated as regular intervals, after a repair, and as required by regulations
  - 2.3.2 Setting frequency and locations for surveys and following schedules
  - 2.3.3 Using appropriate survey meters for each type and level of activity
  - 2.3.4 Following regulations regarding personnel surveys and reporting to the designated physician or radiation safety officer
  - 2.3.5 Performing constancy checks on survey meters
  - 2.3.6 Performing wipe tests where applicable
  - 2.3.7 Performing leak tests on sealed sources, when so authorized
  - 2.3.8 Recording data in standard format
- 2.4 Performing decontaminating procedures by:
  - 2.4.1 Wearing appropriate clothing and foot covering as necessary
  - 2.4.2 Blocking access to a contaminated area and confining a spill
  - 2.4.3 Removing contamination or reducing the activity to acceptable levels
  - 2.4.4 Monitoring the area and personnel involved and repeating decontamination procedures until activity levels are acceptable
  - 2.4.5 Closing off all areas of fixed contamination that are above acceptable levels
  - 2.4.6 Identifying, storing, or disposing of contaminated material in accordance with regulations
  - 2.4.7 Maintaining adequate records concerning cleanup

- 2.4.8 Notifying appropriate authority in the event of possible overexposure or other violations of regulations
- 2.4.9 Performing appropriate follow-up monitoring after any necessary decontamination records according to license conditions
- 2.5 Disposes of radioactive waste and maintains appropriate records according to license conditions
- 2.6 Understands the importance of participating in a hospital's in-service education program to instruct other personnel regarding radiation and principles of radiation protection
- 3. Nuclear Instrumentation—Quality Control
  - 3.1 A nuclear medicine technologist evaluates the performance of scintillation cameras by:
    - 3.1.1 Assessing camera uniformity
    - 3.1.2 Selecting a radionuclide source of appropriate type, size, (if necessary), quantity and energy
    - 3.1.3 Selecting an appropriate pulse height analyzer (PHA) photopeak and window
    - 3.1.4 Obtaining uniformity images using standardized imaging parameters
    - 3.1.5 Evaluating the images qualitatively and, if possible, quantitatively in comparison to the manufacturer's specification
    - 3.1.6 Identifying the source of any non-uniformity (i.e., checking collimator, PHA peak setting)
    - 3.1.7 Initiating corrective action when necessary
  - 3.2 Performing a detector spatial linearity evaluation
    - 3.2.1 Selecting a radionuclide, a spatial linearity phantom and obtaining images
    - 3.2.2 Identifying any nonlinearity in the image and, where possible, determining the Source
    - 3.2.3 Initiating corrective action when necessary
  - 3.3 Performing spatial resolution checks
    - 3.3.1 Selecting an appropriate radionuclide
    - 3.3.2 Choosing a phantom that is compatible with the specified resolution of the camera
    - 3.3.3 Analyzing the resulting images for degradation of resolution
    - 3.3.4 Initiating corrective action when necessary
  - 3.4 Conducting sensitivity checks

- 3.4.1 Selecting a source with an appropriate level of activity and half-life, and assuring identical geometry, source placement and measurement parameters for repetitive checks
- 3.5 Performing SPECT quality control procedures
  - 3.4.1 Obtaining a high count uniformity flood
  - 3.4.2 Obtaining a center of rotation correction
  - 3.4.3 Evaluating energy corrections and spatial coordinates
  - 3.4.4 Verifying multi-head detector alignment
  - 3.4.5 Evaluating reconstruction results of a phantom acquisition, and initiating corrective action when necessary
- 3.5 Checking computer parameter and data interface settings and verifying accuracy of ECG gating and quality of ECG tracing
- 3.6 Assessing and, when appropriate, maintaining imaging or data recording device(s)
- 3.7 Maintaining the required records for the quality control program
- 3.8 Evaluating the performance of a PET or PET/CT scanner by:
  - 3.8.1 Assessing detector array uniformity
  - 3.8.2 Acquiring applicable calibration data prior to clinical imaging (as applicable: blank scan, normalization, coincidence timing, well counter, etc.)
  - 3.8.3 Testing transmission imaging systems
  - 3.8.4 Checking alignment of emission and transmission images
- 3.9 A nuclear medicine technologist evaluates the performance of NaI (TI) scintillation probes and well counters by:
  - 3.9.1 Calibrating a spectrometer with a long half-life radionuclide source
  - 3.9.2 Determining energy resolution
  - 3.9.3 Performing constancy measurements and determining proper operation
  - 3.9.4 Conducting sensitivity measurements at appropriate energies
  - 3.9.5 Checking background and determining the cause for levels greater than established normal levels
  - 3.9.6 Performing a chi-square test and interpreting results
  - 3.9.7 Maintaining required records for quality control programs

- 3.10 A nuclear medicine technologist operates survey meters by:
  - 3.10.1 Ensuring calibration is completed by an approved agent
  - 3.10.2 Performing a reference check-source test and comparing with previous results
  - 3.11.3 Maintaining required records for quality control program
- 3.11 A nuclear medicine technologist evaluates the operation of a dose calibrator by:
  - 3.11.1 Performing a constancy test and determining proper operation
  - 3.11.2 Performing accuracy measurements with a National Institute of Standards and Technology (NIST) source
  - 3.11.3 Ascertaining linearity over the entire range of radionuclide activity to be measured
  - 3.11.4 Testing for significant geometric variation in activity measured as a function of sample volume or configuration and determining correction factors
- 3.12 A nuclear medicine technologist operates and maintains film processors by:
  - 3.12.1 Monitoring and recording sensitometry and temperature of water and dryer daily
  - 3.13.2 Maintaining required records for quality control program

#### 4. Radiopharmaceuticals

- 4.1 Initiates purchases of radiopharmaceutical products and adjunct supplies by:
  - 4.1.1 Anticipating and procuring a sufficient supply of radioactive drugs for an appropriate time period in accordance with anticipated need and license possession limits
  - 4.1.2 Storing drugs and supplies in a manner consistent with labeled product safeguards and with radiation safety considerations
  - 4.1.3 Performing and documenting radiation wipe tests and surveys upon receipt of radioactive materials
  - 4.1.4 Recording receipt of radioactive materials
  - 4.1.5 Following Department of Transportation (DOT) and radiation safety guidelines in the transport, receipt and shipment of radioactivity
- 4.2 Prepares and verifies quality of radiopharmaceuticals under the direction of an authorized user by:
  - 4.2.1 Employing aseptic technique for manipulation of injectable products
  - 4.1.2 Eluting radionuclide generators according to manufacturer's specification

- 4.2.3 Verifying radionuclide purity of generator eluates
- 4.2.4 Selecting and preparing radiopharmaceuticals in accordance with manufacturer's Specification
- 4.2.5 Calculating and measuring activity of the radionuclide with a dose calibrator
- 4.2.6 Confirming the quality of a radiopharmaceutical in accordance with accepted techniques and official guidelines
- 4.2.7 Preparing labeled blood cells in accordance with established protocols
- 4.2.8 Recording use and/or disposition of all radioactive materials
- 4.3 Responsible for the identification and labeling of all radiopharmaceutical preparations by:
  - 4.3.1 Labeling the container with the radiopharmaceutical, hour, date, expiration time, and radiation symbol
  - 4.3.2 Recording radiopharmaceutical and medication information on a patient's administration form and preparation records
  - 4.3.3 Labeling and segregating radioactive waste and recording this information
- 4.4 Prepares individual dosages under the direction of an authorized user by:
  - 4.4.1 Applying radioactive decay calculations to determine required volume or unit form necessary to deliver the prescribed radioactive dosage
  - 4.4.2 Selecting and preparing prescribed dosages and entering this information on a patient's administration form and other records
  - 4.4.3 Labeling the dosage for administration
  - 4.4.4 Checking the dosage activity prior to administration in a dose calibrator and comparing this measurement against the identification label of the dose's immediate container
- 5. Diagnostic Procedures
  - 5.1 Performs imaging procedures by:
    - 5.1.1 Selecting imaging parameters
    - 5.1.2 Selecting and preparing the instrument for the procedure
    - 5.1.3 Selecting appropriate parameters for image data acquisition, and recognizing artifacts on static, dynamic, gated, SPECT and PET images that are due to instrumentation malfunction and initiating appropriate action
  - 5.2 Administering radiopharmaceuticals and/or pharmaceuticals using standard precaution techniques as authorized by the institution

- 5.2.1 Verifying patient identity prior to the administration of medication or radiopharmaceuticals
- 5.2.2 Determining route of administration according to established protocol (e.g., subcutaneous, intramuscular, intravenous, inhalant, oral and intravesical)
- 5.2.3 Establishing and/or verifying venipuncture access using aseptic techniques and using and maintaining established venous access routes (e.g. heparin infusion, IMED)
- 5.3 Establishing patterned breathing when introducing radiopharmaceuticals by inhalation
- 5.4 Administering oral radiopharmaceuticals
- 5.5 Documenting medication and/or radiopharmaceutical administrations on a patient's permanent record, as appropriate, and preparing, determining dosage, and administering non-radioactive pharmaceuticals under medical direction, where permitted
- 5.6. Positioning the patient and obtaining images;
  - 5.6.1 Recording image data according to established protocols and acquiring additional views when needed to optimize information content
  - 5.6.2 Placing the patient in correct position using supportive materials and immobilizers as necessary
- 5.7 Exercising independent judgment in positioning a patient or detector unit to best demonstrate pathology
- 5.8 Indicating appropriate anatomic landmarks for each view of the procedure, and reviewing images to assure that correct information is supplied
- 5.9 Assisting the physician or practitioner in cardiac stress testing when performed in conjunction with nuclear medicine procedures
  - 5.9.1 Preparing patient's skin and placing ECG leads appropriately
  - 5.9.2 Recognizing and being responsive to any changes that may occur on either a resting or stress ECG, and recognizing the parameters that should terminate a cardiac stress study
- 5.10 Performing data collection, processing and analysis
  - 5.10.1 Performing data collection, processing and analysis in accordance with established protocols
  - 5.10.2 Exercising independent judgment in selecting appropriate images for processing
  - 5.10.3 Selecting appropriate filter, filter parameters, and attenuation correction when reconstructing SPECT images
  - 5.10.4 Applying corrections to PET images for attenuation, random events, scatters, etc.

- 5.10.5 Defining regions of interest (ROI's) with reproducible results and correctly applying background subtraction
  - 5.10.6 Performing time activity curve generation and additional manipulation (e.g. T1/2)
  - 5.10.7 Labeling processed images to reflect anatomical position, ROI's, etc.
  - 5.10.8 Archiving and retrieving data from storage media, and performing image fusion of PET and SPECT with CT and MRI, when available
6. Performing non-imaging in-vivo studies by:
- 6.1 Operating laboratory equipment and checking accuracy, precision, and operation of pipetting devices
  - 6.2 Preparing dosage according to standards
  - 6.3 Quantitating dosage by:
    - 6.3.1 Determining decay factor and calculating remaining activity
    - 6.3.2 Determining volume necessary to deliver activity for the prescribed dosage
    - 6.3.3 Drawing dosage into syringe using appropriate techniques and materials
    - 6.3.4 Dispensing appropriate quantity of liquid or capsules for the prescribed dosage
    - 6.3.5 Confirming calculated activity by using a dose calibrator
  - 6.4 Preparing standard by:
    - 6.4.1 Choosing appropriate volumetric or gravimetric techniques to dilute standard
    - 6.4.2 Adding radioactive material identical to that given the patient q.s. (quantity sufficient) to appropriate volume, and diluting capsule in appropriate solvent, if necessary, for preparing a standard
    - 6.4.3 Collecting the appropriate specimens for procedures using standard precautions
    - 6.4.4 Collecting blood samples by:
      - 6.4.4.1 Selecting proper supplies (e.g., needles, syringes, evacuated tubes, anticoagulants, etc.)
      - 6.4.4.2 Labeling patient information on collection containers
    - 6.4.5 Performing venipunctures at appropriate time intervals using aseptic technique

- 6.4.6 Adding hemolyzing compounds to samples when necessary
  - 6.4.7 Centrifuging blood and separating blood components, as required, and storing aliquot of serum, plasma, or whole blood according to protocol
  - 6.4.8 Collecting and processing urine samples by:
    - 6.4.8.1 Instructing patient and nursing staff as to correct method and time of urine collection
    - 6.4.8.2 Preparing aliquots of urine sample and measuring total urine volume
    - 6.4.8.3 Measuring specific gravity of urine, if required
    - 6.4.8.4 Recognizing and documenting all technical circumstances which would produce invalid results, and labeling patient information on collection containers
  - 6.4.9 Performing calculations
    - 6.4.9.1 Subtracting room or patient background from appropriate samples
    - 6.4.9.2 Applying appropriate formulas, including conversion and dilution factors
    - 6.4.9.3 Calculating results according to procedure used, and reporting both patient values and normal range of specific procedures used
    - 6.4.9.4 Managing bio-hazardous, chemical, and radioactive waste in accordance with applicable regulations and specific facility policies
7. Radionuclide Therapy
- 7. Assists an authorized user in the preparation and application of therapeutic radionuclides by:
    - 7.1 Assuring the correct radiopharmaceutical and dosage are prepared
    - 7.2 Having the authorized user and the technologist verify the dosage
    - 7.3 Assuring the patient is correctly identified by the technologist and authorized user according to the quality management program in effect at the particular institution
    - 7.4 Preparing and/or coordinating environmental preparations (i.e., decontamination supplies)
    - 7.5 Observing prescribed radiation safety procedures during the preparation and the administration of such treatment
    - 7.6 Assisting the authorized user in supplying proper patient care instructions to hospital staff, patient, and/or caregivers
    - 7.7 Conducting and documenting radiation surveys of designated patient areas, when indicated and supplying hospital staff, patient, and/or caregivers with proper instructions on handling and disposal of all contaminated supplies when necessary

8. Administrative Procedures
  - 8.1 Performs administrative procedures by maintaining an appropriate inventory of medical/surgical supplies, radiopharmaceuticals, storage media, and other items that a patient procedure can be performed whenever necessary
  - 8.2 Scheduling patient studies, including the most appropriate sequence for multiple procedures
  - 8.3 Maintaining appropriate records of administered radioactivity quality control procedures, patient reports and other required records
  - 8.4 Methods used to maintain patients' nuclear medicine records, patient doses, quality control results, and other required records
  - 8.5 Revising, developing or collaborating on procedures for reporting or recording incidents required by regulatory agencies
  - 8.6 Revising and developing policies and procedures in accordance with applicable regulations and administrative requirements and participating in the quality control program

### **COST OF PROGRAM**

Total cost of the program at the time of handbook publication was approximately \$8,065.00. This amount covers all costs of the program including: tuition for all courses, course materials, CPR fee, lab coat patches, uniforms and lab coat, fees, textbooks and parking. The cost is subject to change without notice pending variations in expenses associated with overall operation of the school. A Student Direct Cost flier is available on-line, at the BHSC business office, and in the appendix of this handbook

Additional costs that will occur during March of the Spring semester will be the board of registry fees paid by the student to the American Registry of Radiologic Technologists (ARRT) and to the Nuclear Medicine Technology Certification Board (NMTCB) for the nuclear medicine technology board exams. The total cost for these two exams will be approximately \$300. The approximate cost for the Arkansas State Licensure (required if the student plans on working in Arkansas after graduation) is \$45, payable in June prior to graduation.

### **LENGTH OF PROGRAM**

The program of study is twelve (12) months in length. One (1) week break/vacation is scheduled during the Fall Semester, a three (3) week vacation during Christmas before the start of Spring Semester, and one (1) week late-March (Spring Break). In addition, the school provides six (6) Holidays. The combined total of break/vacation days and holidays equals approximately six (6) School weeks that the student is not engaged in contact study with the school.

### **ATTENDANCE POLICIES**

#### **Absences**

A student is expected to attend all scheduled classes and clinical rotations. An absence is excused only in the event of an emergency. Students should contact the Program Director and the Clinical Coordinator as soon as

possible when he or she cannot attend class or clinical. Students missing class or clinical time without notifying both the Program Director and the Clinical Supervisor of their assigned rotation may be issued a written warning which will be kept in their permanent file.

Absences from classroom or clinical assignments for personal income purposes are considered unexcused absences from the school. Falsifying attendance will result in appropriate disciplinary action, which may include dismissal from the school. Clinical assignments may not be completed by another student.

Continued absences or tardiness is a symptom of negligence or irresponsibility, and is not in keeping with the Baptist Health Values of service, honesty, respect, performance, and stewardship. Therefore, excessive absences or tardiness may result in dismissal from the school.

Absence is defined as not being present after one (1) clock hour for a scheduled class or clinical rotation.

***All absences (excused and/ or unexcused) from either clinical or classroom must be made up in the clinical rotations by the end of the school year.*** The student is required to make-up the absent time on weekends and evenings, at the end of the school year or during one of the scheduled breaks. Make-up time must be scheduled with the prior approval of the Program Director and Clinical Supervisor of the rotation in which the Absence occurred. Absences in excess of three (3) absences (excused and/or unexcused) in any semester will result in the clinical grade being dropped by one letter grade. Cumulative absences in excess of five (5) in any semester or during the school year, even with the time being made up, will result in the current semester's clinical grade being dropped by two letter grades, a written warning being issued, and possible termination from the program if the clinical grade is below a "C". Additional absences in any semester or during the school year will result in the clinical grade being dropped by three letter grades, a written warning being issued, and will result in termination from the program.

Time lost from absences for part of a day from either class or clinical rotations for scheduled physician and dentist appointments should be made up within two weeks of the missed time. Other absences should be made up within three weeks of the absence. The student is expected to attempt to make physician and dentist appointments at the end of the class or clinical day.

**Disciplinary actions related to unexcused absences:**

1. Written warning: First unexcused absent day.
2. Probation status: Second unexcused absent day.
3. Dismissal may result after the third unexcused absent day.

Students still making-up time at year-end shall participate in the Commencement Ceremony, however, Graduation shall not occur, and the Diploma/Certificate is withheld along with the Registry graduation verification until the time is made up and all graduation requirements are fulfilled.

**Tardiness**

Defined as not present up to one (1) clock hour of a scheduled class or arriving in the assigned clinical area at any time (up to one clock hour) after the scheduled time to be present has passed.. A tardy is recorded, if the student arrives in clinical or class after their scheduled time to be present has passed. Three (3) or more documented Tardy Occurrences shall cause disciplinary action.

***Absences of one (1) class period equals one (1) tardy.  
Three (3) tardies equals one (1) day absence.***

**Disciplinary actions for tardiness:**

- Written counseling: Three (3) tardy times (counts as one [1] day of absence)
- Written warning: Six (6) tardy times (counts as two [2] days of absence)
- Probation status: Nine (9) tardy times (counts as three [3] days of absence)
- Tardy times in excess of nine (9) may result in immediate dismissal.

## **MAKING UP TIME**

Time missed from either the clinical or classroom schedule must be made up in the clinical area. The time must be scheduled with the Program Director and the Clinical Supervisor of the clinical area in which the time will be made up. On the official form, a Nuclear Medicine Technologist must verify the exact time that the student arrived in the clinical area and left. This form must be turned in to the Program Director the next scheduled class. Any time made up that is not properly documented will not be accepted. Students rotating at Baptist Health facilities must clock in with their student ID badge into the Kronos timekeeper system.

## **ESSENTIAL FUNCTIONS and TECHNICAL STANDARDS**

The technical standards (non-academic) established for the program describe the essential functions that must be met by all students. Essential functions reflect the physical requirements that students must be capable of to engage in during the educational activities in such a way that they will not endanger other students or the public, including patients. The student must be able to perform and maintain the following technical standards and essential functions throughout enrollment in the program:

| <b>Technical Standards</b>  | <b>Essential Functions</b>  |
|-----------------------------|---|
| 1. Visual/Hearing           | Read and apply appropriate instructions in patient charts and on requests, procedure manuals, computer screens and particularly small print on syringes and vials. Visually monitor patients in a dimly lit room. Hear various equipment and background sounds during equipment operations.   |
| 2. Communication/Behavioral | Communicate both verbally and in writing in a clear and concise manner in order to transmit information to all members of the health care team and to individuals in various departments. Students must be able to assess non-verbal communication.   |
| 3. Fine Motor/Movement      | Lift fifty (50) pounds of weight. Move immobile patients from stretcher to imaging table with assistance from departmental personnel. Utilize computer keyboard, mouse and monitor in order to input and manipulate clinical data. Possess all skills necessary to carry out diagnostic procedures, manipulate clinical data. Perform phlebotomy safely and accurately. |
| 4. Locomotion               | Move freely from one location to another in physical settings of the department, patient room, elevator and stairway. Push standard wheelchair and stretcher.   |
| 5. Intellectual/Conceptual  | Possess the emotional health required for full utilization of intellectual abilities. Recognize emergency situations and take appropriate actions. Understand and apply clinical instructions given from departmental personnel in order to effectively carry out diagnostic procedures.  |

## **PROFESSIONAL CURRICULUM**

The curriculum is organized into two (2) semesters and leads to a certificate at the end of the program. During enrollment, students attend approximately 700 hours of didactic (classroom) instruction and 1,000 hours of

clinical instruction. Students spend clinical practice time in the Nuclear Medicine departments of both Baptist Health Medical Center in Little Rock, Baptist Health Medical Center in North Little Rock and Heart Clinic Arkansas. Rotations also include a Radiopharmacy rotation at Cardinal Health.

| <b>SEMESTER I</b> |                                      | <b>CREDITS</b>       |
|-------------------|--------------------------------------|----------------------|
| SP 0001           | Spiritual Perspectives in Healthcare | 1                    |
| NM 4202           | Clinical Practicum I                 | 2                    |
| NM 4102           | Medical Terminology                  | 2                    |
| NM 4604           | Instrumentation I/Statistics I       | 4                    |
| NM 4305           | Clinical Practicum II                | 5                    |
| NM 4405           | In Vivo Nuclear Medicine I           | 5                    |
| NM 4404           | Nuclear Physics /Radiochemistry      | 4                    |
| NM 4104           | Patient Care/Medical Ethics          | 4                    |
| NM 4504           | Radiopharmacy/Radionuclide Therapy   | 4                    |
|                   |                                      | <b>Total Credits</b> |
|                   |                                      | <b>31</b>            |

| <b>SEMESTER II</b> |   |                      |
|--------------------|---|----------------------|
| NM 4204            | In Vivo Nuclear Medicine II               | 4                    |
| NM 4304            | In Vitro Nuclear Medicine/Radioimmunology | 4                    |
| NM 4210            | Clinical Practicum III                    | 10                   |
| NM 4303            | Instrumentation II/Computer Applications  | 3                    |
| NM 4105            | In Vivo Nuclear Medicine III              | 5                    |
| NM 4704            | Radiation Health Physics                  | 4                    |
| NM 4302            | Radiobiology                              | 2                    |
|                    |   | <b>Total Credits</b> |
|                    |   | <b>32</b>            |

**Totals: Courses - 16**

**Credit Hours - 63**

### **COURSE DESCRIPTIONS**

**SP 0001**  
**Spiritual Perspectives in Healthcare** 1 Credit Hour

A study of the concept of spiritual perspective of the whole person and the relationship of this to healthcare

practice is examined from the perspective of an individual quest for purpose and meaning as well as examination of the major religious as avenues of spiritual expression.

**NMT 4404**

**Nuclear Physics/Radiochemistry**

4 Credit Hours

Fundamentals of basic atomic and nuclear physics, including the structure of the atom, modes of radioactive decay, mathematical calculations of radioactivity, passage of charged particles and high energy photons through matter, and the primary and secondary sites of radionuclide production.

**NMT 4405**

**In Vivo Nuclear Medicine I—Diagnostic Procedures**

5 Credit Hours

Comprehensive study of the theory and methodology of imaging the different systems in the body, including rationale and indications for the study, patient preparation, radiopharmaceuticals used, imaging techniques, computer processing applications and diagnostic interpretation. Each section will be correlated with laboratory studies and clinical exams performed in the clinical setting.

**NMT 4102**

**Medical Terminology**

2 Credit Hours

Introductory course in the basics of building, spelling and pronouncing medical words designed as a self-directed course.

**NMT 4104**

**Medical Ethics/Patient Care**

4 Credit Hours

Medicolegal and ethical principles involved in the practice of Nuclear Medicine Technology. Topics covered include the code of ethics and the legal implications of negligence and malpractice in the clinical nuclear medicine setting. The sections on patient care cover the principles and techniques of patient care, including cardiopulmonary resuscitation (CPR) certification, patient transport, ECG monitoring, physical assessment, pharmacology, venipuncture and I.V. therapy. Emphasis is placed on skills that are used by the technologists in the clinical setting.

**NMT 4202**

**Clinical Practicum I**

2 Credit Hours

Introduction to Clinical Imaging.

**NMT 4504**

**Radiopharmacy/Radionuclide Therapy**

4 Credit Hours

Fundamental principles of radiopharmacology, including radiopharmaceutical preparation and quality control, biochemical and physiological properties of radiopharmaceuticals, methods of localization and alterations of distribution, and the therapeutic use of radionuclides in medicine. Correlation with the clinical laboratory experience included.

**NMT 4604**

**Instrumentation/Statistics I**

4 Credit Hours

Principles of operation and quality control of non-imaging nuclear medicine radiation detection equipment to include statistical applications. Correlation with the clinical laboratory experience included.

|   |                 |
|---|-----------------|
| <b>NMT 4305</b><br><b>Clinical Practicum II</b>   | 5 Credit Hours  |
| Intermediate techniques in clinical imaging, radiopharmaceutical preparation, computer techniques and radiation health physics.   |                 |
| <b>SEMESTER II</b>  |                 |
| <b>NMT 4404</b><br><b>In Vivo Nuclear Medicine II—Diagnostic Procedures</b>   | 4 Credit Hours  |
| Continuation of In Vivo Nuclear Medicine I.   |                 |
| <b>NMT 4105</b><br><b>In Vivo Nuclear Medicine III—Diagnostic Procedures</b>  | 5 Credit Hours  |
| Continuation of In Vivo Nuclear Medicine II   |                 |
| <b>NMT 4303</b><br><b>Instrumentation/Computer Applications II</b>  | 3 Credit Hours  |
| Principles of operation and quality control of collimated radiation detectors. Emphasis will be placed on the operation and quality control of both Single Photon Emission Tomography (SPECT) and Positron Emission Tomography (PET). Basic principles and concepts of the modern computer, with emphasis on the application of computers and data processing in the Nuclear Medicine Department. Correlation with the clinical laboratory experience included. |                 |
| <b>NMT 4304</b><br><b>In Vitro Nuclear Medicine/Radioimmunity—Diagnostic Procedures</b>   | 4 Credit Hours  |
| Comprehensive study of the theory and methodology of various in vitro procedures such as the Red Cell Mass, Schillings Test, RISA Plasma Volume, Red Cell Survival Study and Splenic Sequestration Study. Includes monoclonal antibody imaging, somatostatin-receptor imaging and radiolabeled peptide imaging procedures as well as other oncological diagnostic imaging studies. Correlation with the clinical laboratory experience included.                |                 |
| <b>NMT 4302</b><br><b>Radiobiology</b>  | 2 Credit Hours  |
| Biological effects of the exposure of living tissue to ionizing radiation, including chronic and acute effects, the relative sensitivity and resistance of organ systems, and cellular and systematic response of tissue to radiation.  |                 |
| <b>NMT 4704</b><br><b>Radiation Health Physics</b>  | 4 Credit Hours  |
| Principles involved in minimizing exposure to patient, personnel, self and environment are discussed. Included are techniques for measuring levels of radioactive contamination, procedures for decontamination and a general overview of government regulatory issues regarding exposure and radioactive material handling. Correlation with the clinical laboratory experience included.  |                 |
| <b>NMT 4210</b><br><b>Clinical Practicum III</b>  | 10 Credit Hours |

Advanced techniques in clinical imaging, radiopharmaceutical preparation, computer techniques and radiation health physics.

### **SCHOOL CALENDAR 2008-2009**

|                           |                         |
|---------------------------|-------------------------|
| Registration (“Prep” Day) | Tuesday, June 2         |
| Classes Start             | Monday, July 6          |
| New Student Orientation   | Monday, July 6          |
| Labor Day                 | Monday, September 7     |
| Thanksgiving              | Thursday, November 26   |
| Day after Thanksgiving    | Friday, November 27     |
| Christmas Break           | December 14 – January 1 |
| Spring Registration       | Tuesday, January 19     |
| Spring Break              | March 22- 26            |
| Memorial Day              | Monday, May 24          |
| Commencement              | Thursday, June 10       |
| Graduation                | *as appropriate         |

\*Students having “time” to make-up, do not graduate until verification is provided that all “time” has been made up and graduation requirements fulfilled.

### **CLASSES AND CLINICAL ROTATIONS**

Classes begin on July 6, 2009 and end the scheduled day of commencement in June of the following year. Classes are scheduled on a regular basis and may be scheduled either in the morning, afternoon, or all day, depending on the courses being taught at the time. Most of the classes are taught at the Baptist Health Support Center, but some courses may be scheduled in various rooms at Baptist Health Medical Center in Little Rock as needed. A monthly schedule of classes is distributed to students during New Student Orientation (NSO) and will be updated on a monthly basis during the year.

At the beginning of each course taught in both the clinical and the didactic setting, the student will be provided with written course syllabi with detailed learning objectives and performance criteria for determining satisfactory achievement of the objectives. The principles taught in the didactic portion of the curriculum are correlated with the clinical objectives in the performance of nuclear medicine procedures, patient care, radiation safety, record keeping, quality control and radiopharmacy techniques.

Some courses have clinical laboratory demonstrations and practicals taught concurrently with the lecture topics. This approach gives the students hands-on experience and visual reinforcement of the principles learned in the classroom. Labs are scheduled by the clinical instructor and the student may be given time to complete the laboratory assignments on his/her own, depending on the course and the particular instructor. The supervised clinical education of the student is designed to assure competent performance of an appropriate number and variety of procedures.

Students are required to participate in the clinical setting as scheduled during the entire twelve (12) month Class Year. Student rotations include the Nuclear Medicine imaging rooms and PET imaging at Baptist Health Medical Center-LR (BHMC-LR), Baptist Health Medical Center-NLR (BHMC-NLR), Heart Clinic Arkansas, Little Rock Hematology/Oncology Diagnostic Imaging and PET/CT, Arkansas Children’s Hospital and Cardinal Health Radiopharmacy Services.

Students are scheduled to be in class or clinical Monday through Friday. Clinical days are 7:30 a.m. to 4:00 p.m. (0730-1600) with the exception of the QC/Hot Lab rotation from 6:00 a.m. to 2:30 p.m. (0600-1430). Class days are 8:00 a.m. to 4:00 p.m. (0800-1600). Students are not required to work weekends, overtime, or take call. If a student desires to remain in the clinical area overtime in order to observe and/or assist with a procedure,

compensatory time-off is not given. If necessary, students may request permission from the Program Director to schedule make-up time after 4:00 p.m. in the imaging clinical areas.

Students must demonstrate and have written verification of competency in a selected list of imaging and non-imaging procedures as required by the ARRT board of registry prior to commencement. The appropriate forms and instructions for completing the forms will be handed out to each student at the beginning of the year, prior to beginning the clinical experience. Students must demonstrate competency in 19 different procedures on the list and at least 6 additional procedures on the list. The required competencies are listed in the Appendix of this Student Handbook. Students are encouraged to begin working on their competencies as soon as their clinical rotations begin.

### **MAKE-UP WORK**

Class assignments and exams missed must be made up. It is the student's responsibility to meet with the Program Director to review and obtain make-up assignments and arrange to take the missed exam. A student who continually completes assignments late or has to make up tests frequently may be in danger of being terminated from the program.

### **REMEDICATION**

A student who fails to maintain a passing grade of "C" in either the clinical or didactic area, may be allowed to formally appeal the grade, or, remediate the course or clinical rotation at the Program Director's discretion. This remediation time will be in addition to the regularly scheduled time for both classes and clinical and will include, but is not limited to, written and/or oral examination and additional assignments as deemed appropriate by the instructor. The amount of time needed for the remediation and the requirements will be determined prior to the beginning of the term of remediation by the Program Director. Failure to achieve a passing score of "C" at the end of the remediation will result in termination from the program.

### **SPECIAL REQUIREMENTS FOR UCA STUDENTS**

Students enrolled at the University of Central Arkansas are encouraged to consult with the Nuclear Medicine Advisor to assure completion of all general education and specific program prerequisites. UCA students must meet with their college advisor during the spring (usually May) in order to complete all necessary requirements for the graduation and the commencement ceremony in August at UCA. All applicants are encouraged to contact the Program Director of the School of Nuclear Medicine Technology during their sophomore year in college for additional information.

Although the UCA student will have already graduated from the Baptist Health School of Nuclear Medicine Technology and received their certificate prior to graduation from UCA, the student must complete all the necessary paperwork with UCA to assure that they will be awarded the Bachelor's Degree.

### **GRADUATION REQUIREMENTS**

1. Fulfill all Progression and Promotion Criteria;
2. Complete the Student/Graduate Clearance Form and process;
3. Cooperate in the taking of Class and Individual photo session arranged by school;
4. Participate in Commencement Ceremony, wearing the school required attire\*;
5. Provide Criminal Background Check Record and exit random drug screen;
6. Successful completion of the Program of study;

7. Satisfactory demonstration of Terminal Objectives.
8. Satisfactory demonstration of a minimum level of competency as set forth in the Objectives of the program.
9. Satisfactory performance of the Essential Functions & Technical Standards.

\*Entire personal appearance.

## **CERTIFICATION**

Completion of the program and graduation assures eligibility to apply for national certification with two (2) boards: the Nuclear Medicine Technology Certification Board (NMTCB) and the American Registry of Radiologic Technologists (ARRT[N]).

Successful candidates are recognized as registered Nuclear Medicine Technologists, having demonstrated a commitment to maximal quality performance in the profession. The professional signs the credential “CNMT” and “RT(N)” and has full privileges as a member of the profession.

Students will register for both of these national board exams in March. Payment is to be made out to each of the boards and the applications and checks will be taken up and mailed to the respective agencies by March 15. The 2009 costs for the two board exams was \$295. The NMTCB is typically scheduled to be taken the day after graduation (Friday) and the ARRT(N) is scheduled to be taken the Saturday or the following week after graduation.

In addition, in June prior to graduation, those students who plan on remaining in Arkansas will need to apply for their temporary Arkansas State Health License in order to work as a Nuclear Medicine Technologist in the state of Arkansas. The approximate cost of this licensure is \$45.

## **STUDENT APPEAL/DISCIPLINARY/DRESS CODE**

The School supports the BHSNAH policies summarized in the General Information content. Detailed and specific elaboration on the policies and subsequent processes are published in the General Section of this Student Handbook.

## **BEHAVIORAL EXPECTATIONS**

1. Students are required to be in the assigned clinical department at all times other than when in class, on break, or at lunch, or when performing an assigned responsibility that will take them out of the department.
2. Students are expected to participate in all phases of clinical studies as scheduled. Students are not allowed to exchange clinical rotations with other students. If a problem arises within the clinical area concerning rotations, the problem should be discussed with the Program Director and the Clinical Supervisor of the Student’s clinical rotation in order to arrive at a solution.
3. The **Clinical Competency Form** as required by the American Registry of Radiologic Technologists (Nuclear Medicine) must be completed and turned in to the Program Director during the year as they are finished. All competencies must be completed and turned in by the end of May. It is the responsibility of the student to make sure that they have met all the competency requirements. If the student is having difficulty meeting all of the requirements, it is their responsibility to notify the Program Director and/or Clinical Supervisor early in the program so that arrangements can be made for the completion of the

competency. Students failing to complete the required Competencies will not graduate until they have completed each of the requirements.

4. **Clinical Evaluation Forms** are to be filled out for each clinical rotation by the clinical instructor, clinical supervisor, or Program Director. These clinical evaluations will help to determine the progress of the student and in what areas the student may be having difficulty. Any student failing a clinical evaluation will be counseled by the clinical supervisor and the Program Director and the course of action determined at that time (*see section on "Remediation"*).

If there is a problem area, the problem will be defined and a solution will be attempted. Any student needing additional individual attention in order to become competent in a specific area will be given that attention by the Program Director and/or the clinical supervisor. As long as the student is willing and demonstrates an ability to learn and work agreeably with the technologists, he/she will not be placed on probation.

If a student is unable or unwilling to attempt to improve, he/she may be placed on probation, the length of which shall be determined by the Program Director according to the individual case. If, at the end of the probationary period, the student has not demonstrated significant improvement, dismissal from the program may be the only recourse.

Students rotating at BHMC-Little Rock can place their Clinical Evaluation Forms in the lock-box provided.

5. Clinical instruction will take place at each of six different locations:

**Baptist Health Medical Center-Little Rock Nuclear Medicine Department:** Clinical time at this institution will be spent performing various diagnostic and therapeutic procedures. The students' clinical supervisor at BHMC-LR, **Brad Temple (202-2257)**, and the Lead Technologist, **Ed Horvath (202-2257)** are responsible for the student's clinical training during the rotation as well as overseeing the evaluation of the student by each clinical instructor. The student will rotate each room in the clinical Nuclear Medicine area on a scheduled, rotating basis. Periodically, the student will be rotating with a different technologist in order to give him/her a more varied clinical education.

**Baptist Health Medical Center-North Little Rock Nuclear Medicine Department:** Clinical time at this institution will be spent performing various diagnostic and therapeutic procedures. BHMC-NLR is a part of Baptist Health and as such can be considered as an extension of the BHMC-LR Nuclear Medicine Department. The clinical supervisor at this facility, **Susan Hensley (202-3564)**, is responsible for the student's clinical training and evaluation during the rotation. Rotation will not be scheduled on a room assignment basis as there are only three imaging rooms and one cardiac stress room.

**Cardinal Health Radiopharmacy:** Clinical time at this institution will give the student experience in preparing radiopharmaceutical kits, generator elution and set-up, tagging blood components, radiation safety techniques, record keeping and Nuclear Regulatory Requirements. The supervisor of the radiopharmacy, **Kevin Hughes (225-2626)**, is responsible for the training and evaluation of the student during the rotation.

**Heart Clinic Arkansas:** Clinical time at this institution will primarily be centered upon performing various diagnostic cardiovascular imaging procedures. The clinical supervisor is **Beth Russell (255-6141)**, is responsible for the student's clinical training during the rotation as well as overseeing the evaluation of the student by each clinical instructor. The student will rotate the various imaging rooms in the clinical area on a scheduled basis. Periodically, the student will be rotating with a different technologist in order to give him/her a more varied clinical education.

**Little Rock Hematology/Oncology PET/CT and Diagnostic Imaging:** Clinical time in the diagnostic imaging center will expose the student primarily to whole body bone imaging and gated blood pool imaging (MUGA scans). The PET/CT will give the student an intensive clinical experience in patient

preparation, dosing, imaging and processing the PET/CT scans. The clinical supervisor for the students is **Monica Prince (978-1591)** for both the diagnostic imaging and PET/CT.

**Arkansas Children's Hospital:** Clinical time at the Children's Hospital will be focused on working with pediatric patients and the special techniques used in working with children. The student clinical supervisor is **Alan Kinsey (364-1180)**.

## **STUDENT EMPLOYMENT/WORK RELATED POLICIES**

1. Students may be employed at Baptist Health, provided the "work for pay hours" do not interfere with classroom or clinical assignments.
2. The time spent as an employee cannot be credited to the clinical educational program of the School. Classroom or clinical assignments will not be altered to accommodate work schedule.
3. At no time may a student "clock-in" and begin "work for pay hours" prior to 4:00 pm (1600) during weekdays unless it is during a scheduled vacation (e.g. Christmas Break and/or Spring Break).
4. After the student has developed a level of competency in performing the various clinical procedures in the Nuclear Medicine Department, he/she may apply to the Supervisor of Nuclear Medicine to work as a "non-registered technologist" (NRT) if a position is available. Hiring will be contingent upon the agreement between the Program Director and the Supervisor that the student has met the required clinical competencies. The Program Director will not participate in the hiring process of the student for work purposes other than the verification of clinical competency.
5. A student choosing to work must complete the regular hiring process of the Personnel Department of Baptist Health and the Radiology Department (if applying to work there).
6. Although School Student Policies and Baptist Health Employee Policies are in fact separate one from the other, a student's behavior during a Baptist Health employment period that results in a disciplinary action may in turn result in the same by the school and vice versa. The school is not responsible for any unprofessional conduct by the student while "on the job working for pay." The employer has the full responsibility for that aspect. However, any unprofessional conduct may be reported to the Program Director for documentation and further evaluation.
7. The student "at work" is required to exemplify the BH Code of Ethical Conduct the same as all other BH employees.

## **SPECIAL REQUIREMENTS**

Students enrolled at the University of Central Arkansas are encouraged to consult with the Nuclear Medicine Advisor to assure completion of all general education and specific program prerequisites. All applicants are encouraged to contact the Program Director of the School of Nuclear Medicine Technology during their sophomore year in college for additional information. It is the responsibility of the student enrolled in the University of Central Arkansas to meet with the Affiliated Programs advisor in May prior to commencement in order to complete all necessary paperwork for their graduation from the University.

## **STANDARDS OF CONDUCT**

1. Students must be in the correct uniform at the beginning of their rotation. Any student that does not have on the correct uniform, including clean, white shoes and lab coat, will be sent home to change.

The tardy/absence policy will apply to the time that the student is not in the clinical area.

2. Eating, drinking, chewing gum, or smoking is not allowed in any of the clinical settings in which students will be rotating due to State Health and Nuclear Regulatory requirements. Students and technologists are not allowed to have any food, gum, smoking materials, etc. in their pockets in any controlled area.
3. Cell phones are not allowed to be turned on or used in either the classroom or the clinical rotations (*this includes texting*). Cell phones must remain turned off and placed in the student's backpack or left in their vehicle. Because cell phones have been linked to student cheating on examinations, any student having a cell phone in the immediate vicinity during a test will be subject to immediate disciplinary action. Emergency calls should be received by the front desk at the School (202-6200).
4. The clinical instructor (Nuclear Medicine Technologist/Radiopharmacist) is responsible for the clinical education and conduct of his or her assigned student(s). Directions from the clinical instructor must be followed in order to maintain safe and continuity of patient care: not to do so, shall result in immediate disciplinary action by the school.
5. Students are not to leave their assigned clinical department or area before letting the technologist that is responsible for the area know where they are going.
6. Students are to remain in the clinical imaging room at all times when a patient is present. ***Under no circumstances is a patient ever to be left in a room alone without supervision.*** Patients should always be assisted when they are to be moved from a wheelchair to a stretcher or from a stretcher/bed to a stretcher/bed and the wheels of both chairs and stretchers should always be locked to assure safety. Sliding boards are always to be used when transferring patients from a stretcher/bed to the imaging table and back.
7. Students are expected to report immediately any accident, incident or error to the assigned clinical instructor of the area, regardless of how minor it might seem to be.
8. Dosimetry badges should be worn correctly at the lab coat collar and ring badges should be worn on the hand that you draw up radioactive doses with and inject with. The ring badge crystal should be turned inwards towards the palm in order to give the most accurate dose reading when injecting. ***These monitoring devices must be worn at all times when on duty in the clinical areas. Students showing up to clinical without their badges will be required to leave the area and go get them.*** The missed time will have to be rescheduled and made up. This requirement falls under Arkansas State Health Department (ASHD) regulations and cannot be compromised.  
  
Monitoring badges and ring dosimeters will be turned in and new ones distributed in class on the first of each month. Should one of these devices be lost, notify the Program Director and/or Radiation Safety Officer at BHMC-LR immediately. There is a small charge for the loss of the ring badge and/or film badge holder. Disciplinary action may be taken if more than one month's dosimetry readings have been lost due to carelessness.
9. Whenever working with radioactive materials in syringes, a syringe shield must be used. This includes radiopharmaceutical preparation, drawing up doses, and injecting patients. Under no circumstances is a student to perform any of these tasks without using the proper syringe shield.
10. Disposable plastic gloves must be worn whenever handling radioactive materials, radioactive and/or non-radioactive body fluids or performing intravenous injections. Be aware of special patient precautions, which may require the wearing of gloves, gowns and/or masks during the entire time you are in contact with the patient. ***Any student observed not wearing gloves when handling radioactive materials, performing venipuncture, or otherwise potentially coming into contact with a patient's bodily fluids is subject to immediate disciplinary action.***

11. Personal phone calls should not be made except when on break or lunch. Incoming calls will not be accepted unless they are of an emergency nature. All callers will be asked to leave a message. Personal mail should not be received at the department.
12. Report any accident or incident immediately, no matter how minor it may seem. If you are accidentally stuck with a needle or if a patient is accidentally scratched or bumped, it is essential that an Incident and Accident (I&A) form be filled out and the Program Director and the Clinical Supervisor be notified. This is important in cases of liability, especially when the incident may concern harm to the patient.
13. If you are not busy in your assigned room, you are encouraged to observe in another room or assist with another patient. If a computer terminal or another piece of equipment is available, you are also encouraged to spend time becoming more familiar with the operation of that equipment. Ask the clinical supervisor or technologist for assistance when you are in need of assistance with the equipment.
14. Each student is responsible for assuring that an evaluation form has been filled out on his/her clinical rotation by their supervising technologist.
15. Novels, magazines and other literature not pertaining to Nuclear Medicine are not allowed in the clinical areas. It *is not acceptable to read or study while performing a clinical procedure on a patient*. Any free time should be spent studying the Clinical Procedure Manual, imaging equipment manuals, reading Nuclear Medicine literature or working on one of the imaging processing computers.
16. Students are encouraged, but are not required to attend the Southwestern Chapter Society of Nuclear Medicine meeting held in March or April each year. Since attendance at this meeting can be expensive, it is optional for the student to attend, although the benefits of attending the Registry Review session and the Continuing Education sessions are valuable. Students not attending will be expected to remain in their rotations in their assigned clinical areas.

The Southwestern Chapter meeting and registry review in 2010 will be in Fort Worth, Texas on March 19-21. More information may be obtained at the official website of the Southwestern Chapter Society of Nuclear Medicine: <http://www.swcsnm.org/meetings/meetings.htm>

## **CLINICAL INSTRUCTOR RESPONSIBILITIES**

The staff Nuclear Medicine Technologists and Radiopharmacists at the different clinical rotation sites are the clinical supervisors or clinical instructors for the Baptist Health School of Nuclear Medicine Technology.

When a Nuclear Medicine Technologist is employed at Baptist Health, it is understood that part of their job description is to teach student Nuclear Medicine Technologists. These responsibilities are specifically described in their job description and are used when the instructor is evaluated on the BHMC standards of performance system.

Expectations of the student by the clinical staff includes the following:

1. The student is to learn the operation of each piece of equipment within the department, to include the acquisition computer, table and gantry, processing computer and any other equipment that is brought in the area to perform a procedure. The student is to learn and keep in order the necessary supplies kept within this area.
2. The student is to learn the proper positions, proper radiation protection measures, and correct methodology for setting up the equipment and computers for both acquisition and processing.
3. Coordinated with the didactic education, students should be shown how to do each procedure (perhaps several times), then they should be allowed to perform the examination under direct supervision until the student can do the procedure with minimal or no help. When this level of proficiency has been reached, the student should progress to performing the examination under variable supervision with the clinical instructor near by to assist on difficult patients or examinations. At this point, the student

should attempt to check off on the procedure using the **Clinical Competency Form**.

4. The student should learn the necessary explanations for the different examinations and be able to communicate with the patient and provide appropriate patient education. The student should learn to practice good radiation safety techniques and learn how to provide comfort during the examination and provide for the patient's modesty. The student should learn a professional manner that is necessary to provide not only good public relations but the best of patient care.
5. The student should have or acquire the cooperation and attitude that is necessary to become a good member of the medical team. The student should have or acquire the initiative and responsibility to accomplish the objectives and obtain results in regard to technical knowledge and to see the requirements of the entire department are done. The student should acquire a personal appearance and demeanor that will meet the standards of the School, the Nuclear Medicine Department and the institution.
6. The staff Nuclear Medicine Technologist/Radiopharmacist is responsible for the evaluations and grading of the knowledge acquired and progress made by the student in all the learning aspects of the clinical area. A clinical evaluation is filled out on a rotation basis by the clinical instructor who rotates with the student according to our policies and criteria. At that time the clinical instructor will discuss, evaluate and counsel with the student, then turn the evaluation into the Program Director for review, counseling if needed, and then filing in the student's folder.

## **DRESS CODE**

The faculty of the School is responsible for enforcing the dress code and will make final interpretations regarding attire.

Student attire at both the classroom setting and in all clinical settings consists of Cherokee® brand pewter-colored scrub pants, scrub top, lab coat (warm-up jacket or solid white lab coat with school patch), solid white socks, solid white leather shoes (no sandals or open-toes or open-heels) and shoelaces, and appropriate underclothing. The scrub attire should be clean and pressed at all times. Shoes must be clean and polished at all times. A white (no other colors allowed) T-shirt must be worn under the scrub top, and the sleeves and bottom of the T-shirt must not be visible. Lab coat (Cherokee® pewter-colored warm-up jacket or white lab coat) must be worn at all times when working with patients or with radioactive materials. The lab coat must have the School of Nuclear Medicine Technology patch stitched on the upper left sleeve. The school issued dosimeters (film badge and ring badge) must be worn correctly at all times when in the clinical areas and/or when working with radioactive materials. The appropriate student ID must also be worn at collar level on the lab coat at all times when at any of the clinical sites.

The School endorses the intent of the Dress Code Policy of Baptist Health in that all clothing and uniforms should present a positive personal and professional appearance to patients, visitors and employees. Therefore, the dress policy for both employees and students enrolled in the School conform to that of Baptist Health. Additionally, dress for students in the clinical areas also conforms to that set forth in the dress code policy for that particular clinical area.

Refer to *Student Handbook General Section* for additional information regarding the Dress Code.

The faculty of the School is responsible for interpreting and enforcing the Dress Code and making a final judgment regarding attire.

- (1) Students report for duty at their assigned times and in the proper attire for that area according to Dress Code.
- (2) Uniforms are to be neat, clean, ironed and in good repair at all times. Shoes and shoelaces should be cleaned, polished and in good repair at all times. Sandals and clogs (Crocks® with holes in them are

not allowed in the clinical areas due to OSHA infection regulations.

- (3) At no time are shorts, split skirts, T-shirts, jump suits, exercise clothes or nylon/silk jogging suits worn. Students must look professional at all times, including coming to and going home from the clinical or classroom area. Foot apparel other than solid white athletic or nursing shoes are not acceptable. Denim fabric of any color or fabric of a denim-like appearance, such as chambray, is not allowed at either the Baptist Health Medical Center-Little Rock or North Little Rock facilities.
- (5) Lab coats/scrub jackets are worn at all times when working with patients or with radioactive materials. Film badge and ring badge must be worn correctly at all times when working with radioactive materials.

(6) **HAIR:**

**FEMALE**

Hair should be neat, clean and well groomed at all times. Long hair must be pulled back when providing patient care in the clinical area. Only naturally occurring hair colors are allowed. Only conservative hair style and hair ornaments should be worn.

**MALE**

Hair is neat, clean and well groomed at all times. Only naturally occurring hair colors are allowed. Only conservative hair styles should be worn. Hair must be above the top of the collar and not allowed to fall into the eyes. Males should be clean-shaven each morning. Mustaches and beards are allowed, but must be conservative and kept neat and trimmed.

- (7) Student I.D. badges are worn at all times on the upper body whenever on Baptist Health property. No other pins are worn except professionally related ones. Stickers and other adornments are not worn or placed on the name badge.

Students must have name badge on to receive discounts in the Baptist Health Cafeterias and Medical Towers drugstore.

Students are permitted to wear watches and rings. Jewelry should be small enough and of an appearance not to interfere with the equipment or job duties. Necklaces should be worn inside the uniform. For women, no more than two pierced earrings per ear and no other pierced jewelry on any other visible body part is allowed. Men are not permitted to wear earrings and no other pierced jewelry on any other visible body part is allowed. Tattoos must not be visible in a prominent location.

- (8) Nails are to be clean and short in length so as not to interfere with work. No nail art or colors. Cologne/perfume, aftershave, or lotions may be worn in moderation and must not be strong and/or offensive.

**Responsibilities of the School:**

- (1) Provide academic instruction in the principles and practices of Nuclear Medicine Technology.
- (2) Provide facilities and time for the student to learn and practice the clinical procedures used in Nuclear Medicine, including radiopharmaceutical preparation.
- (3) Provide the student the educational experience of practicing in different clinical settings in order to provide a well-rounded educational and practical experience.
- (4) Stimulate curiosity and interest in the field of Nuclear Medicine Technology.

- (5) Acquaint the student with literature in Nuclear Medicine and the different opportunities for continuing education and professional development once training is completed.
- (6) Assist in developing pride and achievement in his/her chosen profession.
- (7) Encourage continued membership and active participation in the Society of Nuclear Medicine.

## WHAT THE SCHOOL EXPECTS FROM STUDENTS

During the next twelve(12) months the school expects the student to demonstrate:

- (1) **ATTENTION:** Instructors are professional Nuclear Medicine Technologists with employment duties to perform which, under certain circumstances, take priority over teaching responsibilities. Listen carefully and ask questions at appropriate times.
- (2) **AWARENESS OF THE PATIENT:** The care and interests of the patient take precedence over everything else. Speed, efficiency, attention to detail and the Code of Ethical Behavior are essential to proper patient care.
- (3) **RESPONSIBILITY:** Take responsibility for own work. Attempt to work on own; however, ask if not sure of something.
- (4) **TEAMWORK:** The student is a member of the Nuclear Medicine/Radiology team. Every task they perform, regardless of how trivial it may seem now, has a direct bearing on the quality and quantity of work produced in the Nuclear Medicine Department. Voluntarily giving assistance to the technologists is encouraged when possible.
- (5) **DESIRE TO LEARN:** Instructors are ready to assist the student with their clinical education in every way possible. It is up to the student to demonstrate the desire, drive and willingness to learn, progress, achieve, and succeed.
- (6) **MATURITY:** The student has embarked on a career that involves personal commitment to the patient, physician and Nuclear Medicine Department. This year will be a very short time, not only to learn, but also to develop core skills as a Nuclear Medicine Technologist.
- (7) **ACCOUNTABILITY:** To comply with established policies and guidelines; to meet academic and clinical requirements; and to fulfill all School requirements for graduation
- (8) **PROGRESSION:** Exemplify personal and professional growth as well as academic and clinical achievement and growth.
- (9) **EXEMPLIFY:** Baptist Health Values as written in the *Code of Ethical Conduct (page 5 of the Student Handbook Part I)*

## PREGNANCY

1. The purpose of the “Pregnancy Policy” is to clearly communicate the position of the Baptist Health School of Nuclear Medicine Technology in relation to pregnancy concerns and student clinical rotations. The School allows for **voluntary disclosure** of pregnancy status. The student is advised that the policy allows a female student the option of whether or not to inform the Program Director of her pregnancy. If she chooses to voluntarily inform the Program Director, it must be in writing. In the absence of this voluntary, written disclosure, a student cannot be considered pregnant.

2. It is not possible to predict, with any accuracy, the result that a dose of radiation might have on the human embryo or fetus at any stage of development, therefore, it is important that the student practice good radiation safety techniques at all times during their clinical rotations.
3. Students enrolled in the School are instructed in proper safety precautions and personnel monitoring prior to being admitted to any ionizing radiation areas. The student is required to abide by all safety precautions and to remember the importance of keeping exposure as low as achievable through a combination of time, distance and shielding. Due to the number and variety of courses in the curriculum, and the importance of maintaining a rotation schedule through the various assignments, students are strongly encouraged not to become pregnant during the twelve-month period of education.
4. The School encourages voluntary disclosure. Should any student suspect pregnancy, she should consider making a declaration of pregnancy to the Program Director. The declaration must be in writing, dated and include the estimated date of conception. The estimated date of conception is necessary to approximate the dose that the embryo/fetus may have received prior to the declaration. In order for the facility to ensure that the dose to the embryo/fetus does not exceed 5 mSv (0.5 rem) during the entire pregnancy as a result of occupational exposure, the declared pregnant student should not average more than 0.5 mSv (0.05 rem) per month (NCRP #116). If the radiation exposure exceeds this amount, then the student might not be able to meet the necessary clinical rotations during the twelve-month program. The declared, pregnant student will be issued a second (“fetal”) dosimeter to be worn at the waist level.
5. If a student declares that she is pregnant, one of the following options must be chosen and taken:
  - 6.1 Submit a statement from her physician verifying pregnancy and expected due date. The student will then decide either to:
    - 6.11 take an immediate Leave of Absence (MLOA), or
    - 6.12 continue through the planned clinical rotations with full knowledge of the information presented below
  - 6.2 No exceptions in scheduling clinical rotations shall be made due to pregnancy, with the exception of the radioiodine therapy room at Cardinal Health and the PET rotation at BHMC-LR.
  - 6.3 If the student elects to take a leave of absence, no further action is needed except a written statement of request from the student
  - 6.4 If the student elects to continue through the clinical rotations, the following are required:
    - 6.41 Counsel with the Program Director and/or Radiation Safety Officer at BHMC-LR regarding the nature of potential radiation injury associated with in-utero exposure and the required preventive measures to be taken throughout the gestation period. Counseling is documented and placed in the Student’s Record.
    - 6.42 A written statement granting permission to continue the clinical rotation by the student’s physician. The statement is filed as content in the Student’s Record.
6. If the student elects to take a leave of absence, it shall be understood that upon return, all missed classes, clinical competencies and rotations shall be completed and Graduation Criteria met prior to graduation. No diploma shall be issued until all requirements of graduation have been successfully fulfilled. This may necessitate repeating the entire year of study.

## **PROGRAM EFFECTIVENESS**

It is essential that the School maintain an ongoing program effectiveness evaluation process. Several factors comprise the process, primary being Student and Graduate outcomes assessments; faculty teaching effectiveness; curriculum evaluations; school policies; employer satisfaction with graduates and approval and accrediting outcomes. Thus, students and graduates have an important role in the measurement of program effectiveness.

Students evaluate each course instructor, the Program Director, clinical faculty and course content as they progress through the program. The evaluations are carried out according to BHSNAH policy and established processes.

The student is assured of anonymity, thus encouraging his/her participation in the evaluations. If a student is of the opinion that the process should be improved, the Program Director of the School welcomes suggestions for improvement.

The process summarized presents an objective process through which students provide subjective data in the measurement of teaching behaviors and course evaluations. At course end, evaluation forms and/or computerized evaluation surveys are provided to the students and are collected and given to the Allied Health secretary for tabulation and then forwarded to the Program Director for review.

## **ADDITIONAL INFORMATION**

### **CLEP**

Not available.

### **Transfer of Courses/Credit**

Not available.

### **Auditing of Courses**

Contact Program Director, Sharon Ward at (501) 202-7447

### **Contact Information**

Additional information about the school may be obtained or a complaint filed concerning an established policy and process described in the STUDENT HANDBOOK, by contacting the following state board and professional accrediting agency.

Arkansas State Board of Private Career Education (ASBPCE)  
Attention: Director  
612 S. Summit St. Suite 102  
Little Rock, AR 72201-4740  
Phone 501 683 8000  
Fax 501 683 8020

Joint Review Committee on Educational Programs in Nuclear Medicine  
Technology (JRCNMT)  
2000 W. Danforth Rd. Ste 130 3203  
Edmond OK 73003  
Phone 405 285-0546

Fax 405 285-0579