MISSION AND GOALS

In step with the mission and goals of the Medical Center, the mission and goals of the Vanderbilt Nuclear Medicine Technology are to train knowledgeable, talented, and compassionate students to use their acquired skills to provide the highest quality of patient care in their chosen profession of nuclear medicine.

GENERAL INFORMATION

The Vanderbilt Program in Nuclear Medicine Technology is a 12-month training program in clinical Nuclear Medicine Technology established in 1979 as an allied health program at Vanderbilt University Medical Center. It is designed primarily for students who have completed a minimum of three years in a radiologic technology, or equivalent, curriculum in an accredited college or university. The training program prepares its graduates for certification as Nuclear Medicine Technologists. Students receive coursework in physics, instrumentation, quality assurance, radiochemistry and radiopharmacy, patient care and nursing, computer applications, and radiation safety, as well as clinical nuclear medicine. At the same time, students participate in clinical rotations in a hospital environment under the supervision of certified technologists. It is also anticipated that students will develop certain educational and administrative skills that will prepare them for possible future supervisory positions.

The program is approved as the fourth year externship in a baccalaureate degree program at Austin Peay State University in Clarksville, TN, Belmont University in Nashville, TN and Middle TN State University in Murfreesboro, TN. In addition, upon graduation from the program, students are awarded a certificate from the Division of Allied Health at Vanderbilt.

Technical Coordinators:

Vanderbilt Hospital: Dawn Shone, CNMT

V.A. Hospital: Robert Bowen, CNMT

Advisors for Degree:

Austin Peay: Rex Ameigh, MSLM, BSRT(R)

Belmont: Robert Magruder, PhD

Middle TN State: M. Jo Edwards, Ed.D.

The program is accredited by the Joint Review Committee for Nuclear Medicine Technology and graduates are eligible for national certification examinations.

ADMISSION REQUIREMENTS

I. Satisfactory completion of three years of college credit at an accredited college or university.

A. **CHEMISTRY:** A minimum of 10 semester hours or equivalent of General Chemistry.

B. **PHYSICS:** A minimum of 10 semester hours or equivalent of General Physics.

C. **MATH:** A minimum of 6 semester hours of college algebra. Statistics also recommended.

D. **BIOLOGY:** Approximately 20-24 semester hours or equivalent including Human Anatomy and Physiology, Hematology, Bacteriology, and Clinical Analysis.

E. **COMPUTER SCIENCE:** 6 semester hours or equivalent including Introduction to Computer Science.

II. **GRADE POINT AVERAGE:** A minimum overall grade point average of 3.0 is recommended, but averages above 2.5 will be considered.

III. Students must have a baccalaureate degree or be eligible for that degree at the completion of the program.

IV. Applicants should be of good moral character, personable, and able to relate to patients.

Qualified applicants from any accredited college or university are eligible for appointment, but qualified students from Austin Peay , Belmont and MTSU will receive preference. Completed applications must be received by March 15th preceding the expected start date in August. Student selections will be completed by April 15th. Student selections are made by a committee consisting of the Program Director, Medical Director, Educational Director, and Technical Coordinator with the recommendation of the degree advisors. Selection is based on scholastic background, references, personal interview and motivation. A complete application from schools other than Austin Peay, Belmont & Middle TN State will include:

1. Application form
2. Three references
3. Official transcripts

COURSE DESCRIPTIONS

Patient Care: Basics of patient monitoring, CPR, EKGs, aseptic techniques, venipuncture, blood drawing, moving and lifting patients, and the handling of emergencies.

Math and Statistics: Basic review including algebra, scientific notation, logarithms, exponentials, and statistics.

Atomic and Nuclear Physics: Structure of the atom, nuclides, natural and artificial radioactivity, decay processes, and interactions of radiation with matter.

Radiation Biology and Radiation Safety: Biological effects of radiation on organ systems, radiation risks, handling of radioactive materials, decontamination, and disposal procedures. Overview of State and Federal regulations.

Radionuclide Chemistry and Radiopharmacy: Review of basic chemistry, radionuclide production, labeling procedures, chromatography, isotopes and technetium radiochemistry. Organization, record keeping, quality control, and preparations and dispensing of doses.

Clinical Nuclear Medicine Imaging: Routine and special imaging procedures. This course is divided into sections according to organ systems, with each section including the anatomy and physiology of the system, imaging procedures, procedure interpretations, and imaging techniques. The first three topics are taught by physicians with the imaging techniques being taught by technologists.

Clinical In Vitro Nuclear Medicine: In Vitro studies of kidney and hematopoietic systems. In Vitro lab techniques.

Computer Applications: Computer terminology and description of current data acquisition systems. Students receive direct hands-on experience with up-to-date computer systems and programs involving laboratory automation and analysis of data from static and dynamic studies.

Clinical Nuclear Medicine Laboratory: Lab rotations in radiopharmacy, nursing, imaging, and in vitro under certified technologist supervision at Vanderbilt Hospital and imaging at the VA hospital.

Laboratory rotations and lectures are supplemented by special programs and seminars for the Department of Radiology in an effort to ensure a well-rounded educational experience in Nuclear Medicine Technology.

Students are expected to be in lecture and/or laboratory Monday through Friday (8:00 am to 3:00 pm) during the 12-month training period. Two weeks of holiday break and one week of spring break are included in the program.

FEES AND REQUIREMENTS

Tuition: Current tuition for the program at Vanderbilt is $1,600. In addition, students are required to register at Austin Peay State University, Belmont University or Middle Tennessee State University in order to qualify for a degree.

Books: Some of the required books are provided at no cost by the program.

Health Insurance: Students are required to be covered by health insurance during training and documentation must be provided. Vanderbilt student insurance is available as an option.

Malpractice Insurance: Students are covered by the University's blanket malpractice policy.

Immunizations: Students must document immunity to rubeola and rubella, and document varicella titer, two negative TB skin tests, tetanus/diphtheria booster within the past 10 years, and completion of series of 3 hepatitis-B vaccines or informed refusal.

Dress Code: Students are required to dress in a professional manner. Uniforms are not mandatory.

Rules and Regulations: Copies of student rules and regulations and the appeal process are available upon request. Students receive a detailed handbook on the first day of the program.

Students are responsible for their own transportation, housing, and other expenses.

For more information, write, call, or email:

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Department of Radiology, CCC-1124 MCN
Vanderbilt University Medical Center
Nashville, TN 37232-2675

For more information on the baccalaureate program, write, call, or email:

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Vanderbilt University Medical Center

Program in Nuclear Medicine Technology

Department of Radiology and Radiological Sciences

Nashville, Tennessee

Program Director
James A. Patton, PhD

Medical Director
William H. Martin, MD

Educational Coordinator
Rita Warren, M.Ed., MPA

Website Link:
http://www.mc.vanderbilt.edu/radiology/education/nmtechnology.php