University

Of

Central Arkansas

College of Health and Behavioral Sciences

Bachelor of Science

in

Nuclear Medicine Technology

in cooperation with

BAPTIST HEALTH College Little Rock

School of Nuclear Medicine Technology

**A Major’s Guide**

***Bachelor of Science***

***Nuclear Medicine Technology***

***University of Central Arkansas***

***College of Health and Behavioral Sciences***

***Health Sciences Department***

***Betty Hubbard, Interim Chair***

The Nuclear Medicine Technologist (NMT) is a highly skilled professional who utilizes radioactive material to image the function of different organs, analyze biologic specimens and treat certain diseases. The responsibilities of the NMT are varied and can include radiation safety, quality control, radiopharmaceutical preparation and administration, the performance of diagnostic imaging procedures on patients, and computer acquisition and analysis of data. The NMT works closely with nuclear medicine and physicians, radiologists, and referring patient physicians in order to insure that each patient receives the highest quality study possible.

The program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association (AMA) in collaboration with the Joint Review Committee on Education Programs in Nuclear Medicine Technology.

The Department of Health Sciences in cooperation with the Health Education Division of Baptist Health offers a Bachelor’s Degree in Nuclear Medicine Technology. The degree requirements consist of three (3) years and seventy-three (73) hours of course work at UCA, and forty-seven (47) hours taken over twelve (12) months at BMC. Students may transfer into the program, but a minimum of thirty (30) hours of residence at UCA is required. Students may apply to the professional phase of the program at Baptist Health by March. 1, and acceptance is on a competitive basis.

**Note: All prerequisite courses must be complete by the end of the spring semester to be eligible to apply to Baptist School of Allied Health.**

**DESCRIPTION OF THE FIELD**

Nuclear Medicine is a profession developed as a product of the atomic age. Nuclear medicine technologists (NMT) utilize radioactive materials to image the function of different organs, analyze biologic specimens and treat certain diseases.

The field of nuclear medicine differs from radiology in that radiologic technologists take X-rays by shooting radiation through patients to create images. Nuclear medicine technologists prepare a radioactive substance to be injected into the patient, then use a camera which creates an image from the radiation given off by the patient. Imaging devices record the patterns of radioactivity on computer and film that the physician can use to diagnose tumors or other disease entities.

The technologist is responsible for explaining the procedure to the patient, preparing them for the procedure, calculating the correct dosage and administering the dosage by mouth or injection. The technologist follows the patient through the entire procedure.

Additional responsibilities of nuclear medical technicians include radiation safety, quality assurance, radiopharmaceutical preparation and administration, the performance of diagnostic imagining procedures on patients, and computer acquisition and data analysis. Documentation is completed regarding the procedures performed, radionuclide types and dosages administered, and proper disposal of remaining radionuclides.

The NMT works closely with nuclear medicine physicians, radiologists and referring physicians to assure that each patient receives the highest quality study possible. Imaging devices record the patterns of radioactivity on a film that the physician can use to diagnose tumors or other disease entities. Biochemical and physiological functions are also performed.

**HISTORY OF THE FIELD**

The discipline of nuclear medicine began almost a century ago with the discovery of radium. With the discovery and development of artificial radionuclides, following World War II, physicians recognized the potential medical implications of these elements. Since this development, the field of nuclear medicine has become a very important diagnostic discipline. Currently, the use of nuclides enables diagnostic testing of the brain, bones, heart, and most internal organs.

**PRACTICE AREAS**

Nuclear medicine technologists (NMTs) primarily work in hospitals, physicians' offices, outpatient clinics and imaging centers. Typically, NMTs work a 40 hour week. Evening or weekend hours may be required depending on the requirements of the setting. The NMT may also be on call for emergency procedures during the evening or weekend.

**DEGREE OPTIONS**

Formal training programs are required by employers in this practice field. A B.S degree in Nuclear Medicine Technology is awarded following successful completion of coursework at the University of Central Arkansas in addition to a program at an affiliating hospital.

**GENERAL SALARY RANGES**

Nuclear medicine technologists start at a salary of approximately $47,000/year, with a range of $42,000 to $90,000. Nuclear medicine technologists may find a variation in starting salaries depending on the geographical area, size of the community, and availability of registered technologists. NMTs' salaries in general are comparable to those offered to similarly educated allied health professionals.

**ADMISSION CRITERIA**

Candidates for admission to programs that offer instruction in Nuclear Medicine Technology may be either graduates of approved schools of instruction in radiologic technology or registered nurses who have successfully completed a course in radiation physics, anatomy and physiology, inorganic chemistry, and algebra.

**Note:** **It is highly recommended that students complete 20 hours of observation in the field of Nuclear Medicine prior to applying to Baptist School of Allied Health**

**AFFILIATE PROGRAM**

Daniel Guffey, Program Director

School of Nuclear Medicine Technology

Baptists Schools of Nursing and Allied Health

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Little Rock, Arkansas 72210-2820

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Phone: (501) 202-6200 Email:study@bhclr.edu

Website: <https://www.bhclr.edu/academics/programs/nuclear-medicine-technology/>

Application deadline is March 1st , March 15th for transcripts and other required documents.

Nuclear Medicine school at Baptist Health begins the first Monday after July 4th

**B.S. in Nuclear Medicine Technology**

**University of Central Arkansas**

**UCA CORE REQUIREMENTS (38 Hours) FOR STUDENTS BEGINNING AT UCA FALL 2014 AND LATER**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COMMUNICATIONS** **(9 HRS)** | **Course** | **Hours** | **Grade** | **Term** | **Transfer** |
| **Writing Foundation\***: (WRTG 1310) **OR** (HONC 1310) [*ENGL1013]* – 3 Hours |  |  |  |  |  |
| **Research and Writing\*:** (WRTG 1320) **OR** (HONC1320) *[ENGL 1023]* – 3 hours |  |  |  |  |  |
| **Oral Communication:** (COMM 1300)[*SPCH1003]* **OR** (MGMT 2301) [*BUSI2013*]– 3 hours |  |  |  |  |  |
| **CRITICAL INQUIRY (20 HRS)** | **Course** | **Hours** | **Grade** | **Term** | **Transfer** |
| **Quantitative:** (MATH 1390) [*MATH1103*] or higher – 3 hours |  |  |  |  |  |
| **Natural Sciences/Physical Science\*: College Physics I** (PHYS 1410) *[PHYS2014]* – 4 hours |  |  |  |  |  |
| **Natural Sciences/Life Science\*:** **Principles of Biology I** (BIOL 1440) [*BIOL1014*]– 4 hours |  |  |  |  |  |
| **Inquiry and Analysis/American History and Government: (**HIST 2301)[*HIST2113*]; (HIST 2302) [*HIST2123*]; **OR** (PSCI 1330) [*PLSC2003*] – 3 hours |  |  |  |  |  |
| **Inquiry and Analysis/Social Science: (**BUAD 2301); (ECON 2320)*[ECON2103];* (ECON 2321) *[ECON2203]*;(GEOG 1305) *[GEOG1103]*; (MGMT 2341); (PSCI 1300); (PSCI 1330) [*PLSC2003*]; (PSCI 2300); (PSYC 1300) *PSYC1103*]; (SOC 1300)*[SOCI1013]* – 3 hours |  |  |  |  |  |
| **Inquiry and Analysis/Fine Arts or Humanities: FA** (ART 2300) [*ARTA1003*]; (THEA 2300)[*DRAM1003*]; **HUM**:(AFAM 1330); (ENGL 1350); (ENGL 1355); (CHIN 2320); (FREN 2320) *[FREN2023]*; (GERM 2320)*[GERM2023]*; (SPAN 2320); (LALS2310);(PHIL 1301)[*PHIL1103]*; (PHIL 2305)[*PHIL1003]*; (RELG 1330); (WLAN/LING 2350); (HONC 1310) – 3 hours |  |  |  |  |  |
| **DIVERSITY (6 HRS)** | **Course** | **Hours** | **Grade** | **Term** | **Transfer** |
| **Diversity in Creative Works/Fine Arts or Humanities**: **HUM -** (ENGL 2370); (ENGL 2380); (ENGL 2390); (WLAN 2315); **FA -** (COMM1305); (MUS 2300)*[MUSC1003]*; (FILM 2300); (WRTG 1374) FYS; (WRTG 2310) OR (HONC 2320 ) – 3 hours |  |  |  |  |  |
| **Diversity in World Cultures/Social Science or Humanities: SS -** (ANTH 1302)[*ANTH1013]*;(BUAD 2302); (ECON 2310); (GEOG 1300)[*GEOG2103*];(GEOG1320); (HBST1377); (HIST 1310) [*HIST1113*]; (HIST 1320)[*HIST1123*];(HIST 1375)FYS; (LING 1310); OR **HUM** - (ENGL2305); (ENGL2306); (ENGL2320); (LALS2300); (PHIL1330); (RELG1320); (WLAN2325); or (HONC 2310) – 3 hours |  |  |  |  |  |
| **RESPONSIBLE LIVING (3 HRS)** | **Course** | **Hours** | **Grade** | **Term** | **Transfer** |
| **Responsible Living:** (HED 1320) or (HED 2320 - SS) preferred. Other courses may be substituted with approval of advisor – 3 hours |  |  |  |  |  |
| **First Year Seminar:** (For students with less than 30 hours) Any course designated as FYS |  |  |  |  |  |
| **TOTAL UCA CORE** |  | **38** |  |  |  |
| **Nuclear Medicine Technology Pre-requisites (30 HRS)** | **Course** | **Hours** | **Grade** | **Term** | **Transfer** |
| **Statistics:** (PSYC 2330);(MATH 2311) [MATH2103]; (SOC2321) or (QMTH2330) [BUSI2103]– 3 hours |  |  |  |  |  |
| **Computer Literacy:** (CSCI 1300)[CPSI1003] or (CISA 1300) – 3 hours |  |  |  |  |  |
| **Structure and Function I\*:(**BIOL 3406) –4 hours (BIOL 1410 may substitute)  |  |  |  |  |  |
| **Structure and Function II\*:**(BIOL 3407) – 4 hours (BIOL 2410 may substitute) |  |  |  |  |  |
| **College Chemistry I\*:** (CHEM 1450)[CHEM1414] – 4 hours |  |  |  |  |  |
| **College Chemistry II\*:** (CHEM 1451)[CHEM1424] – 4 hours |  |  |  |  |  |
| **Organic Chemistry I\*:** (CHEM 2401) – 4 hours |  |  |  |  |  |
| **College Physics II\*:** (PHYS 1420)[PHYS2024] – 4 hours |  |  |  |  |  |
| **Upper Division Electives: (5 HRS)** |  |  |  |  |  |
| **Additional Upper Division Electives** will be chosen with the input of your advisor in order to insure the 40 upper division credit hours will be met. Upper division UCA Core requirements are waived for this program. | **Course** | **Hours** | **Grade** | **Term** | **Transfer** |
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|  **\*indicates a minimum grade of C is required**  |  |  |  |  |  |
| **TOTAL HOURS** |  | **73** |  |  |  |

**NOTE:** A Bachelor of Science Degree in Nuclear Medicine Technology will be awarded from UCA after the completion of the prerequisite courses listed above, in addition to the completion of 12 months in the professional radiography program at Baptist Health. **In order to apply to Baptist Health, all prerequisite courses must be completed by the end of the spring semester prior to student enrollment in the affiliate professional programs. Applicants must possess a minimum cumulative GPA of 2.5 to be considered eligible for the nuclear medicine technology program. Admission into Baptist Health is on a competitive basis and is determined by the Admissions Committee at Baptist Health.** Applicants are required to have the results of the American College Test (ACT) prior to applying to Baptist Health. Students should contact Baptist Health to inquire about the required ACT score.

THE CURRICULUM OF THE AFFILIATE WILL CONSIST OF 47 HOURS AS FOLLOWS:

**CURRICULUM AND COURSE DESCRIPTIONS**

|  |  |  |
| --- | --- | --- |
| **TERM AND COURSE** | **TITLE** | **SEMESTER HOURS** |
| **FALL SEMESTER** |  |  |
| NMT 4315 | Instrumentation I | 3 |
| NMT 4415 | Patient Care | 4 |
| NMT 4420 | Nuclear Physics/Radiochemistry | 4 |
| NMT 4425 | Invivo (Diagnostic) Nuclear Medicine I | 4 |
| NMT 4430 | Radiopharmacy/Radionuclide Therapy | 4 |
|  | Semester Total | 19 |
|  |  |  |
| **SPRING SEMESTER** |  |  |
| NMT 4100 | Senior Seminars | 1 |
| NMT 4101 | Medical Terminology | 1 |
| NMT 4102 | Medical Ethics and Law | 1 |
| NMT 4215 | Radiation Health Physics | 2 |
| NMT 4220 | Radiobiology | 2 |
| NMT 4320 | Instrumentation II | 3 |
| NMT 4325 | Inviv (Diagnostic) Nuclear Medicine II | 3 |
| NMT 4330 | Invivo Nuclear Medicine IV (Radioimmunassay) | 3 |
| NMT 4410 | Clinical Practicum II | 4 |
| NMT 4435 | Invivo (Diagnostic) Nuclear Medicine III | 4 |
| NMT 4440 | Fundamentals of Computed Tomography | 4 |
|  | Semester Total | 28 |
|  | **Total Hours** | **47** |

The course dates are determined each year by the affiliate program. The courses above represent the affiliate curriculum. The course sequence is subject to change.