

Nuclear **M**edicine **A**dvanced **A**ssociate
Educational Program Recognition Guidelines:



The Nuclear Medicine Technology Certification Board, Inc.
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Introduction

The Nuclear Medicine Technology Certification Board (NMTCB) offers an examination for the credentialing of the Nuclear Medicine Advanced Associate (NMAA). A description of the NMAA can be found in Appendix A. The eligibility requirements to sit for the exam are:

1. Active NMTCB, ARRT(N), or CAMRT(RTNM) certification and
2. Successful completion of a recognized NMAA Education Program.

At this time, in order for an applicant to sit for the NMTCB Nuclear Medicine Advanced Associate (NMAA) exam, the applicant must be a graduate of an NMAA program recognized by the NMTCB. This document explains the NMTCB's minimum expectations of an NMAA Program. These Program recognition guidelines are minimum criteria that the NMTCB will use to allow access to the exam until such time as there is an Accreditation process for NMAA Programs.

As more programs are started throughout the country, the Joint Review Committee on Education Programs in Nuclear Medicine Technology (JRCNMT) has agreed to pursue accrediting credentials for Master's level programs from the Council for Higher Education Accreditation (CHEA) in order to provide programmatic accreditation to the NMAA programs.

Till such time as an accreditation pathway exists, any educational NMAA Program that would like to have its graduates sit for the NMTCB NMAA exam should complete the application which starts on page **9** and submit it to the NMTCB no less than 6 months prior to the students graduation. All questions regarding the application and the recognition process should be directed to the NMTCB, NMAA Program Recognition, at 3558 Habersham at Northlake, Building I, Tucker, GA 30084. (Email: board@nmtcb.org)

Additionally, the Society of Nuclear Medicine and Molecular Imaging (SNMMI) has created an Advanced Associate Council (AAC) to assist those interested in developing a NMAA program at their facility and to support the practice and policy needs of the NMAA and other areas of technologist advanced practice, as well as to assist with activities associated with nurturing and growing the NMAA profession, including effecting the necessary culture change to allow this designation to function properly. The AAC has an SNMMI Web site page (<http://www.snmmi.org/AboutSNMMI/Council.aspx?ItemNumber=6562>) that contains documents, presentation material, white papers, curriculum guides, and other support for members wishing to find out more about the NMAA profession.

Program Recognition Guidelines

1. **Program Location:** The sponsoring institution of a NMAA Program must be accredited by a recognized regional, national and/or state agency and be legally authorized to provide a program of **postsecondary education**. All academic affiliates must be accredited by a recognized regional, national and/or state agency.
2. **Program Responsibilities:** The program shall be responsible for:
 - a. Establishing admissions criteria and a curricular plan.
 - See minimum admissions criteria requirements – Appendix D
 - See curriculum plan recommendation - Appendix E
 - b. Maintaining and documenting effective supervision, coordination and continuing communication with all affiliated academic and clinical institutions to ensure students receive equivalent and adequate instruction and clinical experiences.
 - c. Initiating a formal **affiliation agreement** whenever another institution provides academic and/or clinical education to students as part of the professional program.
 - d. Ensuring that the activities assigned to students in the clinical setting are educational.
3. **Program Personnel:** The sponsoring institution must provide / insure that there is sufficient administrative, instructional and support personnel for the curriculum and program enrollment. The Program's personnel will include but not be limited to the following:
 - a. Program Director
 - b. Medical Advisor
 - c. Instructional faculty
 - d. Staff support
 - e. Affiliate Clinical Preceptors

Note: The job descriptions and qualifications of each of the above are listed in Appendix C.
4. **Program Resources:** The sponsor's human, physical, financial and learning resources must be sufficient to support the educational goals and number of students admitted into the program.
5. **Clinical Affiliation Sites:** All clinical affiliation sites must be accredited by ACR, IAC or TJC.
6. **Clinical Curriculum:** The clinical component of the program shall provide an environment for supervised, **competency-based** clinical education and offer a sufficient and well-balanced variety of nuclear medicine procedures.

Appendix A: Description of the Nuclear Medicine Advanced Associate (NMAA)

Rapid technological innovations place imaging sciences at the leading edge of diagnostic medicine. The Nuclear Medicine Advanced Associate (NMAA) works with physicians to help meet the growing demand for advanced imaging practitioners as new procedures are developed and as the range and utilization of imaging procedures expand.

Professional competencies are based on the existing scopes of practice, knowledge, and clinical skills expected of other middle-level providers. NMAAs are required to demonstrate clinical leadership skills, including the ability to function with a high level of autonomy, technical sophistication, advanced levels of clinical knowledge, and strong critical thinking and decision-making skills. They are highly capable, competent, and motivated professionals, grounded in the sciences, practicing with increased clinical responsibilities, and educated at the master's degree level.

The Nuclear Medicine Advanced Associate is an NMTCB, ARRT, or CAMRT(RTNM) certified or registered nuclear medicine technologist who has successfully completed a master's degree program encompassing a nationally recognized NMAA curriculum and clinical preceptorship directed by a nuclear medicine physician, radiologist, or cardiologist.

Under physician supervision, the NMAA performs patient assessment, image assessment, patient management, and selected nuclear medicine procedures as summarized below, as allowable by state law and institutional policy:

General Nuclear Medicine

- Provide report findings of exam for the interpreting physician's review, editing, and finalization.
 - As part of a focused patient visit, perform history and physical exam pertaining to procedures. Document clinical notes in the Electronic Medical Record (EMR) and/or preliminary dictation.
 - Evaluate referring physician's orders and consult with referring physician to establish correct exam for provided diagnosis and plan appropriate technique to answer clinical question.
 - Perform correlative review of acquired image/data and clinical history to determine need for and/or request additional diagnostic information.
 - Interview patients prior to departure to ensure relevant clinical information is documented for inclusion in NMAA's preliminary dictation.
 - Order and administer medication or contrast media as needed to gather additional diagnostic information as related to the clinical question.

Cardiology

- Evaluate candidacy for exercise and pharmaceutical stress by performing the following:
 - Obtain focused patient history. Check as to appropriateness of ordered test.
 - Assess baseline ECG, note any baseline abnormalities and compare with previous ECG.
 - If patient had prior cardiac stress test, obtain for comparison posttest.
 - Perform heart and lung auscultation, and document vital signs.
 - Consult with supervising physician as needed.
- Conduct exercise and pharmacological stress tests.
- Advanced understanding of ECG.
- Communicate any urgent findings to supervising physician.
- Perform post stress physical exam and determine if patient has returned to baseline and is cleared to leave department.
- Provide report findings for imaging and non-imaging cardiac exams for the interpreting physician's review, editing, and finalization.

PET/CT

- Provide report findings of exam for the interpreting physician's review, editing, and finalization. Protocol all exams to determine accurate clinical indication, CPT code.
- Determine if utilizing contrast will be useful for increased diagnostic quality. Supervise contrast administration and monitor for contrast reactions.
- Access and discontinue infusion port as needed.
- Administer oral or IV sedatives if necessary.
- Perform brief history and physical assessment to ensure all pertinent information is gathered prior to preliminary dictation.

Therapeutics

- Review orders to ensure proper patient candidacy for the prescribed therapy.
- Review all pertinent lab values to ensure appropriate timing and results are within acceptable limits.
- Obtain informed consent for invasive and therapeutic procedures, as well as procedures involving more than minimal risk, as allowable by state law and institutional policy.
- Fill out all required paperwork, including written directive, for AU signature.
- Schedule any correlating infusions or appointments for therapy patients.
- Be the primary contact for medical/radiation oncology questions.
- Contact patient with instructions and answer all clinical questions regarding the therapy.
- Administer or supervise the technologist administering the therapeutic agent.
- Perform post therapy physical exam and determine if patient may leave department.
- Review all paperwork and discharge guidelines with patient and family. Educate the patient on pre-procedural preparation and post-procedural care in patients undergoing invasive

and therapeutic procedures, and procedures involving more than minimal risk, and document in the medical record, as allowable by state law and institutional policy. Contact ordering medical/radiation oncologist or urologist to discuss therapy procedure questions/concerns.

Sedation

Perform minimal sedation (anxiolysis) and moderate sedation (as defined by the American Association of Anesthesiology) under the direct supervision of an appropriately credentialed physician as determined by state law and institutional policy.

NMAAs will actively participate in practice-based improvement activities as well as facility quality assurance programs. They will be competent in overseeing compliance with all local, state, regional, and federal requirements for laboratory operations and accreditation and provide education for technologists, students, and staff. They will be expected to participate in maintenance of certification (MOC) activities and be credentialed by the institution in which they practice.

The SNMMI approved NMAA Scope of Practice:

http://www.nmtcb.org/documents/NMAA_Scope_of_Practice_2010_SNMMI.pdf

Appendix B: Definitions

Academic Affiliate	A regionally-accredited post-secondary educational institution providing academic credits for completion of the professional nuclear medicine advanced associate curriculum.
Affiliation Agreement	A formal written document between a program sponsor and another institution that agrees to provide educational experiences or academic credits to students.
Authorized User	Within these Guidelines, refers to a physician authorized by appropriate state or federal authorities for the medical use of radioactive materials.
Competency-based Education	Learner-centered education in which the focus is on the development of proficiencies.
Postsecondary Education	Education offered by institutions after the completion of high school.

Appendix C: Sponsor Personnel

Program Director

a) Responsibilities

The director of the educational program shall be responsible for the organization, administration, periodic review, planning, development, and general effectiveness of the program. The director shall have input into budget preparation and provide supervision of all faculty and staff.

b) Qualifications

The program director position must be filled by a nuclear medicine professional knowledgeable of current nuclear medicine technology and educational methodology. There must be evidence that sufficient time is devoted to the program by the Program Director to demonstrate that all educational and administrative responsibilities are met. The program director:

- must demonstrate effectiveness in instruction, curriculum design, program planning, evaluation and academic advisement in the didactic and/or clinical setting.
- must hold a minimum of a master's degree,
- must be certified in medical imaging or related field, by a nationally recognized certifying body.

Medical Advisor

a) Responsibilities

The medical advisor of the program shall provide competent medical guidance to ensure that the medical components of the curriculum meet current acceptable standards. The medical advisor coordinates with the program director to assure physician interaction is included within the clinical education component of the curriculum.

b) Qualifications

The medical advisor must be a licensed physician who is:

- an **authorized user** on a radioactive materials license and
- recognized as a diplomat of an American Board of Medical Specialties (ABMS) approved certifying board in Nuclear Medicine, Radiology, or possess suitable equivalent qualifications.

Faculty and/or Instructional Staff

a) Responsibilities

The faculty shall participate in teaching courses, supervising laboratory learning experiences, evaluating student achievement, developing curriculum, formulating policies and procedures, and evaluating program effectiveness.

b) Qualifications

Faculty designated by the program must be qualified at a minimum of Master's degree,

certification, and experience, to teach assigned courses at the appropriate nuclear medicine advanced associate educational level.

Administrative Support Staff

There must be sufficient administrative and technical support staff so that faculty can accomplish the tasks required of them.

Clinical Affiliate Personnel

Primary Affiliate Clinical Preceptor

The NMAA student is supervised by a physician preceptor.

a) Responsibilities

The affiliate clinical preceptor shall be responsible for the clinical education, supervision and evaluation of students assigned to the clinical affiliate as defined in the preceptor manual.

b) Qualifications

The affiliate clinical preceptor must be board certified in nuclear medicine or radiology, designated as an authorized user, and be willing to serve as the NMAA clinical preceptor.

Appendix D: Program Admission/Graduation Criteria

NMAA educational programs must satisfy the following criteria:

Admission Criteria

- Bachelor's degree in any field of study from a regionally accredited college or university.
- Completion of an accredited program in nuclear medicine technology.
- Current certification in nuclear medicine technology by one of the following:
 - Nuclear Medicine Technology Certification Board (NMTCB)
 - American Registry of Radiologic Technologists (ARRT)
 - Canadian Association of Medical Radiation Technologists (CAMRT)

Graduation Criteria

- Completion of the core competencies outlined in SNMMI [Nuclear Medicine Advanced Associate Curriculum Guide](#)
- Completion of 2000 hours of clinical experience as a credentialed nuclear medicine technologist (NMT) following certification and prior to NMAA Program graduation. Clinical hours may include:
 - Hours worked as an NMT following certification
 - Clinical hours completed within the NMAA program
 - A combination of the hours listed above

Appendix E. Curriculum: The core competencies outlined in SNMMI NMAA Curriculum Guide document are intended to serve as a guide in the development of NMAA programs:
http://www.nmtcb.org/documents/NMAA_Scope_of_Practice_2010_SNMMI.pdf

The competencies detailed within this document drive the professional curriculum in terms of content and, most importantly, in terms of assessment. The professional curriculum is expected to utilize a competency-based model in which responsibilities and functions are defined by clinical competencies integrated with physician interaction and supervision. Education programs will be outcomes based and must provide learning opportunities in each competency domain. Assessment of student achievement in each of the domains should be undertaken at multiple intervals using multiple assessment methods.

APPLICATION FOR NMAA EDUCATIONAL PROGRAM RECOGNITION



Submitted by:

Insert Program Name / Name of Sponsoring Institution

Submitted to:

The Nuclear Medicine Technology Certification Board (NMTCB)

Submitted on:

Date

Part A: General NMAA Program Information

Program Name: _____

1. Program Information

Sponsoring Educational Institution: _____

Institutional Accrediting Agency: _____

Name of Program Director: _____

Academic / Certification Credentials of
Program Director: _____

Program Mailing Address:

E-mail: _____

Phone: _____

Fax: _____

Website: _____

2. Contact Person for Questions about this Application

(if different than above)

Name: _____

Title: _____

Address: _____

E-mail: _____

Phone: _____

Fax: _____

1. Medical Advisor

Name: _____

Title: _____

Address: _____

E-mail: _____

Phone: _____

Fax: _____

2. Clinical Coordinator (required if >10 total students per cohort)

Name: _____

Title: _____

Address: _____

E-mail: _____

Phone: _____

Fax: _____

Part B: Statement of Understanding

**NUCLEAR MEDICINE ADVANCED ASSOCIATE EDUCATIONAL PROGRAM
STATEMENT OF UNDERSTANDING**

VERIFICATION

By our signatures below, we represent that the Applicant has read, understands and will comply with the requirements as detailed in the *Nuclear Medicine Advanced Associate Educational Program Recognition Guidelines* document; that all information provided by the Applicant in connection with this Application for NMAA Educational Program Recognition is true, correct, and complete to the best of our knowledge and belief; and that in the event of a material change in the Program after submission of this Application but before the NMTCB Board of Directors renders its decision, the Applicant will notify the NMTCB of the existence, nature, and extent of any such change.

AGREEMENT

In consideration of the NMTCB's decision, if any, to grant Recognition, the Applicant acknowledges and agrees that it shall:

- A. Annually complete and submit information requested by the NMTCB on the current status of the recognized Nuclear Medicine Advanced Associate educational program.
- B. Report any material change in purpose, structure, or activities of the recognized Nuclear Medicine Advanced Associate educational program to the NMTCB.
- C. Report any material change in the scope or objectives of the recognized Nuclear Medicine Advanced Associate educational program to the NMTCB.
- D. Furnish any and all information that the NMTCB may require to investigate whether the program complies with *Nuclear Medicine Advanced Associate Educational Program Recognition: Standards, Instructions, & Guidelines*.

Institutional Signature

Program Director Signature

Name and Title (President or equivalent)

Name and Title

Date Signed

Date Signed

Part C: Supporting Documentation

All items (by title or subject description) in the Required Documentation List below should be referenced somewhere in the application form to support the educational program's compliance with the NMAA Educational Program recognition criteria.

Other forms of documentation that you choose to include may be added as well.

Required Documentation List:

1. Mission Statement/Purpose of Nuclear Medicine Advanced Associate Program
2. Program admissions criteria
3. Curriculum and course descriptions mapped to the NMAA Curriculum Guide
4. Department, Division, Program Organizational Chart
5. Program Director Job Description
6. Clinical Coordinator Job Description** (*Required if > 10 students per cohort*)
7. Program Faculty list with titles, credentials and work affiliation: to include but not limited to the Program Director, Clinical Coordinator, Medical Advisor, Clinical Preceptors, and other didactic faculty.
8. Clinical Education Standards, Policies, and Procedures
9. List of students currently enrolled broken down by year 1 and year 2 or other status.
10. Clinical Preceptor Standards, Responsibilities and Procedures

Application Fee: \$500

*No site visits required.