

FORM C - DEGREE/PROGRAM CHANGE

CIP CODE

- ROUTING (All Four Collated Sets)**
1. Department Chairperson
  2. College Curriculum Committee
  3. College or School Faculty (if necessary)
  4. College or School Dean/Dean of Instruction
  5. Office of the Registrar—Catalog
  6. Director of relevant Library
  7. FS Graduate Committee (graduate courses)
  8. FS Undergraduate Committee (undergraduate courses)
  9. FS Curriculum Committee
  10. Assoc. Provost for Academic Affairs
  11. Faculty Senate
  12. Board of Regents (new degree only)

Date: 11/11/08

Elizabeth J. Greer  
(Name of individual initiating curricular change form)

Assigned by  
**Associate Provost  
for Academic Affairs**

Program Director/Lecturer III  
(Title, position, telephone number)

ejgreer@unm.edu  
(Email address)

Radiology/Rad Sciences/Nuclear Medicine  
(Department/Division/Program/Branch)

**\* Plan for curricular process to take at least 12 months.**

Mark Appropriate Program:  
Undergraduate Degree Program   
Graduate Degree Program   
(For existing degree only)

This form is for Positron Emission Tomography Computed Tomography Certificate  
Name of New or Existing Program

This program is or would be located in current undergraduate/graduate catalog on page(s) 561-562

Mark appropriate category:

	NEW	REVISION OF	DELETION	NAME CHANGE
Degree <u>                    </u> Type	<input type="checkbox"/> Undergraduate degree only	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Major	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concentration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certificate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emphasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Department	<input type="checkbox"/>	NA	<input type="checkbox"/>	<input type="checkbox"/>
Subject Code	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

UNM  
NOV 13 2008  
OFFICE OF THE REGISTRAR

Give exact title and requirements as they should appear in the catalog. See current catalog for format within the respective college (attach additional sheets if necessary). Identify in bracket form what is being changed.

Positron Emission Tomography Computed Tomography certificate program  
See attachments

Reason(s) for Request (attach additional sheets if necessary).

New PETCT Certificate program which includes existing courses from Nuclear Medicine and CT curriculums as well as three new PETCT courses

Attach statements to address Budgetary and Faculty Load Implications and Long-range planning.  
Does this change affect in a significant way, any other departmental programs/branch campuses? Yes  No   
If yes, have you resolved these issues with department/branch involved? \_\_\_\_\_ (attach statement)  
Proposed Effective Term: Fall 2009  
Term Year

Required Signatures:

Department Chair <u>[Signature]</u>	Date <u>11/12/08</u>
College Curriculum Committee _____	Date _____
College or School Faculty (if necessary) _____	Date _____
College or School Dean/Dean of Instruction <u>Ellen M. Cosgrove max</u>	Date <u>1/12/09</u>
Office of the Registrar—Catalog <u>Elizabeth A. Johnston</u>	Date <u>01/14/09</u>
Director of relevant Library <u>Dulce Carr - Health Sci Lib.</u>	Date <u>11/12/08</u>
FS Graduate Committee (graduate courses) _____	Date _____
FS Undergraduate Committee (undergraduate courses) <u>[Signature]</u>	Date <u>02/11/09</u>
FS Curriculum Committee <u>[Signature]</u>	Date <u>3-5-09</u>
Assoc. Provost for Academic Affairs <u>Wyann M. Fry</u>	Date <u>3/11/09</u>
Faculty Senate _____	Date _____
Board of Regents _____	Date _____

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### **The Radiologic Sciences Education Program**

The Radiologic Sciences program at UNM, offers a Bachelor of Science degree in Radiologic Sciences (BSRS) with concentrations in Nuclear Medicine or Radiography. Currently, this program offers a one-year Certificate in Nuclear Medicine Imaging. Proposed to begin also in the fall of 2009 are certificate completions in Computed Tomography, Magnetic Resonance Imaging or Positron Emission Tomography. We hope in the near future to also offer these through distance education.

We recently placed a moratorium on our entry-level Radiography Associate's degree to focus on a degree completion program (2 + 2) With CNM (24 students per year graduate), PIMA Medical Institute (25 students every 8 months graduate), Northern College (7-16 per year graduate), Clovis Community College (8-18 students per year) and Dona Anna Community College of New Mexico State (18-22 students per year graduate). The BSRS program and advance imaging certificates at UNM are the only offered in the state of New Mexico. The BSRS currently provides emphases in management, computed tomography (CT), or magnetic resonance imaging (MRI) face to face. Again the plan is to include the addition of Positron Emission Tomography- Computed Tomography (PET-CT) as well as a certificate path in each of the other specialty modalities currently offered. This additional education and training will be offered to returning students who wish not to do the additional course work necessary for completing a degree as well as to the new graduates from across the state listed above. All these new additions to this program we hope to offer in the future through distance education throughout the state of New Mexico. This field is growing in the advance imaging areas faster than schools have been created to train. The advance imaging job market is in great need for these specialty trained technologists and report shortages across the country while the entry level programs within this state and others are more than providing enough technologists to meet the needs.

With the rapid and numerous changes in the field of radiologic technology, training programs must look forward to preparing students to fulfill the demand for technologists in the areas of advanced imaging. Growth and advances in MRI, CT, and PET CT imaging demand training programs that can train Radiologic and Nuclear Medicine technologists capable of successfully performing these new and specialized procedures. Currently in the United States, CT programs number approximately 25, MRI 10, and PET-CT has no formal program yet list until now.

The baccalaureate degree program that started in 1998 has 37 active baccalaureate degree students. This program has the capabilities at this time to grow to 50 students within Bernalillo County. This department is currently involved in offering a branch of this program through the UNM-West expansion. The enrollment is expected to go up as the community learns of the new certificates in CT, MRI and PET-CT. It will continue to grow as many of the students from the five in-state entry-level radiography programs seek their baccalaureate degrees and advance certifications as well as returning technologists living and working throughout the state.

## Introduction and rationale for Radiologic Sciences curriculum revisions/additions

The Radiologic Sciences program has recently increased their faculty to four full-time and one part-time faculty members to help implement the advanced degree/certificate emphases. The faculty is involved in teaching, clinical, student advisement and outreach throughout the state, and works with main campus groups to inform potential students of their career options.

Our programs have a history of academic excellence. Students completing our programs score significantly higher on their board exams and easily find employment. One of our recent nuclear medicine classes scored a class average over 90% in all areas with a 95% in patient care skills. We are convinced that the changes in our current program will continue to provide the diagnostic imaging field with highly qualified technologists with advanced technical training.

Positron Emission Tomography –Computed Tomography certificate Course outline

Positron Emission Tomography-Computed Tomography certificate will be awarded either to CT Technologists, Nuclear Medicine Technologist or Radiologic Technologists. The course path is determined by your currently held imaging certification(s). These first semester requirements are prescribed based on students previous didactic and clinical courses completed within their entry level imaging certifications.

Nuclear Medicine Technologist course path:

**Fall Semester**

RADS 420	Computed Tomography Clinical 1	3
RADS 410	Physics of Computed Tomography	3
NUCM 360	Imaging Instrumentation I	3

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**Spring Semester**

NUCM 420	PET-CT Clinical I	3
NUCM 430	Essentials of PET-CT Imaging	2

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5

**Summer Semester**

NUCM 440	PET-CT Clinical II	4
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4

**Total credit hours** 18

Positron Emission Tomography –Computed Tomography certificate Course outline

CT technologist course path:

**Fall Semester**

NUCM 354	Clinical Radiopharmacy	3
NUCM 360	Imaging Instrumentation I	3
NUCM 375	Nuclear Physics and Instrumentation	3

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9

**Spring Semester**

NUCM 420	PET-CT Clinical I	3
NUCM 430	Essentials of PET-CT Imaging	2

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5

**Summer Semester**

NUCM 440	PET-CT Clinical II	4
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4

Total credit hours 18

Positron Emission Tomography –Computed Tomography certificate Course outline

Radiologic Technologist course path:

**Fall Semester**

RADS 420	Computed Tomography Clinical 1	3
RADS 410	Physics of Computed Tomography	3
NUCM 360	Imaging Instrumentation I	3
NUCM 354	Clinical Radiopharmacy	3
NUCM 375	Nuclear Physics and Instrumentation	3

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**Spring Semester**

NUCM 420	PET-CT Clinical I	3
NUCM 430	Essentials of PET-CT Imaging	2

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5

**Summer Semester**

NUCM 440	PET-CT Clinical II	4
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4

Total credit hours 24

## **Positron Emission Tomography and Computed Tomography Imaging Certificate Program**

### **Lecturer III**

Rebecca Blankley, M.F.A., R.T., (R) (M) (CT)

Gregory Chambers, M.S., CNMT, RT (N)

Sheldwin Yazzie, B.S., CNMT, RT (N)

### **Introduction**

The PET/CT Certificate Program at the University of New Mexico is a certificate program designed to prepare those individuals interested in sitting for the:

- 1) Nuclear Medicine Technologist Certification Board (NMTCB) Positron Emission Tomography (PET) specialty exam.
- 2) America Registry of Radiologic Technologists Computed Tomography (CT) specialty exam.

### **ADMISSION PROCEDURE**

The application deadline for admittance to the PET/CT certificate program is June 1<sup>st</sup> of each year. Program information is provided upon request from the Radiologic Sciences Department located at the University of New Mexico, School of Medicine. An application to the University of New Mexico is required for all those participating in the degree completion program. The University of New Mexico and the Radiologic Sciences Department does not discriminate against any applicant based on sex, age, race, religion, creed, or national origin.

### **ADMISSION REQUIREMENTS**

1. Applicant must meet the University of New Mexico admission requirements (refer to UNM Catalog).
2. While competitive grade point averages are usually higher, each applicant must have a minimum cumulative grade point average of 2.5 in post-secondary course work.
3. A completed application, three letters of recommendation, and official transcripts must be received by Radiologic Sciences Program office by June 1<sup>st</sup> of each year for acceptance into the program the following fall semester.
4. Students participating in the PET/CT Certificate Program must be certified by the American Registry of Radiologic Technologists (ARRT), or the Nuclear Medicine Technologist Certification Board (NMTCB).
5. The program selection committee will conduct personal interview with each student candidate.
6. Course plan will be determined based upon prior college coursework completed.

**Program Curriculum:**

*Those qualified to sit for the exam and eligible for this program are active NMTCB, ARRT(N), or CAMRT(RTNM) certification and a minimum of 700 hours of clinical experience on a dedicated PET scanner or PET/CT scanner. Those individuals who are active CAMRT(RTR), CAMRT(RTT), ARRT(R) or ARRT(T) certification must fulfill special requirements which include the above and satisfactory completion of a minimum of fifteen (15) contact hours of coursework in each of the following areas: radiopharmacy, nuclear medicine instrumentation and radiation safety. This program is a part-time or full-time program of clinic and classroom instruction. Students must apply and are admitted once a year. The program is accredited by the North Central Association of Colleges and Schools, and the Commission on Institutions of Higher Education. The PET/CT certificate program provides the student with the knowledge and skills necessary to perform the necessary diagnostic procedures.*

*For those who have already completed a certified Radiography or Nuclear Medicine program, this course work is required to be transferable from another institution. The following curriculum is required for completion of the Certificate in PET-CT*

**PET/CT ADVANCED IMAGING: EMPHASIS FOR CNMT, RT (N)**

**RADS 410                    Physics of Computed Tomography. (3) Blankley**

Course provides instruction in physics and instrumentation related to computed tomography including the history of the development of computed tomography, system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction.

**RADS 420                    Computed Tomography Clinical I. (3) Blankley**

Course provides clinical instruction in computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

**NUCM 420                    PET/CT Clinical I (3) Blankley/Chambers/Yazzie**

Course provides clinical instruction in positron emission tomography and computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

**NUCM 430                    Essentials of PET/CT Imaging (2) Chambers/Yazzie**

Basic anatomy and pathophysiology, methods of localization, radiopharmaceuticals, nuclear PET/CT instrumentation and imaging techniques.

**NUCM 440                    PET/CT Clinical II (4) Blankley/Chambers/Yazzie**

A continuation of student rotation through the division of nuclear medicine PET/CT at The University of New Mexico Hospital and affiliated clinical sites.



**PET/CT ADVANCED IMAGING : EMPHASIS FOR ARRT (CT)**

**NUCM 354 Clinical Radiopharmacy. (3) Yazzie**  
Review of basic chemistry; principles of radiopharmacy/radiochemistry including radiopharmaceutical preparation dose calculation, quality control and federal/state regulations.

**NUCM 360 Imaging Instrumentation I. (3) Chambers**  
A study of the physical properties of nuclear medicine and the spectroscopy and instrumentation utilized in topographic imaging. Emphasis on instrumentation for radiation detection and measurement in a nuclear pharmacy or nuclear medicine environment.

**NUCM 375 Nuclear Physics and Instrumentation. (3) Yazzie**  
Principles of nuclear physics, ionization chambers, G-M tubes, scintillation and solid state detectors, associated electronics and quality control procedures.

**NUCM 420 PET/CT Clinical I (3) Blankley/Chambers/Yazzie**  
Course provides clinical instruction in positron emission tomography and computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

**NUCM 430 Essentials of PET/CT Imaging (2) Chambers/Yazzie**  
Basic anatomy and pathophysiology, methods of localization, radiopharmaceuticals, nuclear PET/CT instrumentation and imaging techniques.

**NUCM 440 PET/CT Clinical II (4) Blankley/Chambers/Yazzie**  
A continuation of student rotation through the division of nuclear medicine PET/CT at The University of New Mexico Hospital and affiliated clinical sites.

**PET/CT ADVANCED IMAGING: EMPHASIS FOR ARRT (R)**

**RADS 410 Physics of Computed Tomography. (3) Blankley**  
Course provides instruction in physics and instrumentation related to computed tomography including the history of the development of computed tomography, system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction.

**RADS 420 Computed Tomography Clinical I. (3) Blankley**  
Course provides clinical instruction in computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

**NUCM 354 Clinical Radiopharmacy. (3) Yazzie**

Review of basic chemistry; principles of radiopharmacy/radiochemistry including radiopharmaceutical preparation dose calculation, quality control and federal/state regulations.

**NUCM 360 Imaging Instrumentation I. (3) Chambers**

A study of the physical properties of nuclear medicine and the spectroscopy and instrumentation utilized in topographic imaging. Emphasis on instrumentation for radiation detection and measurement in a nuclear pharmacy or nuclear medicine environment.

**NUCM 375 Nuclear Physics and Instrumentation. (3) Yazzie**

Principles of nuclear physics, ionization chambers, G-M tubes, scintillation and solid state detectors, associated electronics and quality control procedures.

**NUCM 420 PET/CT Clinical I (3) Blankley/Chambers/Yazzie**

Course provides clinical instruction in positron emission tomography and computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

**NUCM 430 Essentials of PET/CT Imaging (2) Chambers/Yazzie**

Basic anatomy and pathophysiology, methods of localization, radiopharmaceuticals, nuclear PET/CT instrumentation and imaging techniques.

**NUCM 440 PET/CT Clinical II (4) Blankley/Chambers/Yazzie**

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