# New Course Request

**Indiana University**

**Indianapolis Campus**

Check Appropriate Boxes:  
- Undergraduate credit [✓]  
- Graduate credit [ ]  
- Professional credit [ ]

1. School/Division: Radiologic Sciences/School of Medicine
2. Academic Subject Code: RADI
3. Course Number: R449 (must be cleared with University Enrollment Services)
4. Instructor: Judith Kosegi
5. Course Title: Medical Imaging Theory for Nuclear Medicine Technologists
   
   Recommended Abbreviation (Optional): MIT for NMTs
   
   (Limited to 52 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall 2010

7. Credit Hours: Fixed at _______ or Variable from _______ to _______.

8. Is this course to be graded S-F (only)? Yes [ ] No [✓]

9. Is variable title approval being requested? Yes [ ] No [✓]

10. Course description (not to exceed 50 words) for Bulletin publication: Lectures on the physical principles of advanced imaging modalities, especially those related to the practice of nuclear medicine.

11. Lecture Contact Hours: Fixed at _______ or Variable from _______ to _______.

12. Non-Lecture Contact Hours: Fixed at _______ or Variable from _______ to _______.

13. Estimated enrollment: _______ of which _______ percent are expected to be graduate students.

14. Frequency of scheduling: Once per year. Will this course be required for majors? Yes [ ]

15. Justification for new course: Current course was under the R407 seminar course title. New course number/description to alleviate confusion.

16. Are the necessary reading materials currently available in the appropriate library? Yes [ ]

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:  

[Signature]  
Date: 11/9/10

Approved by:  

[Signature]  
Date: 2/17/10

Dean:  

[Signature]  
Date

Chancellor/Vice-President:  

[Signature]  
Date

University Enrollment Services:  

[Signature]  
Date

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

**University Enrollment Services**:
- Final—White
- Chancellor/Vice-President—Blue
- School/Division—Yellow
- Department/Division—Pink
- University Enrollment Services Advance—White
This is a 1 credit hour course taken in the fall during the senior year in the Nuclear Medicine Technology (NMT) Program.

**COURSE DESCRIPTION:** Lectures on the physical principles of advanced imaging modalities, especially those related to the practice of nuclear medicine.

**COURSE OBJECTIVES:**
By completion of this course, the student will:

1. Identify anatomic structures on cross sectional Computerized Tomography (CT) and Magnetic Resonance (MR) images.
2. Describe the fundamentals of CT, Positron Emission Tomography (PET), and PET/CT,
3. Explain the basic concepts in CT physics.
4. Discuss factors affecting radiation dose, patient safety, and radiation risk in CT.
5. Describe imaging parameters needed to produce high quality diagnostic CT images with radiation doses as low as reasonably achievable.
6. Discuss the risk factors for adverse reactions to contrast agents, pretreatment methods, and contrast-induced nephrotoxicity.
7. Identify various types of adverse reactions to contrast media.
8. Explain the treatment for various types of adverse reactions to contrast media.

**SUMMARY of the CLASS and EXAM SCHEDULE**

**Fall 2010**

The primary instructor is Linda Cox. Lectures are given in conjunction with part of the RADI R451 Medical Imaging Technology Program course.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
<th>Place</th>
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</thead>
<tbody>
<tr>
<td>September 14 (Tu)</td>
<td>3:00 - 3:30</td>
<td>Orientation for CT &amp; related lectures</td>
<td>Linda Cox</td>
<td>CL-126</td>
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<tr>
<td>September 21 (Tu)</td>
<td>3:15 - 4:15</td>
<td>US Guided IVs</td>
<td>Deb Markandy</td>
<td>CL-126</td>
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<tr>
<td>September 24 (F)</td>
<td>8:00 - 9:00</td>
<td>Pediatric Emergencies</td>
<td>Marie Holder</td>
<td>CL-126</td>
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<tr>
<td>October 1 (F)</td>
<td>9:00 - 12:15</td>
<td>CT Procedures</td>
<td>Schawayna Rayford</td>
<td>CL-126</td>
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<tr>
<td>October 8 (F)</td>
<td>8:00 - 11:00</td>
<td>CT 3D Reconstruction</td>
<td>Louie Rankin</td>
<td>CL-126</td>
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<tr>
<td>October 15 (F)</td>
<td>8:00 - 11:00</td>
<td>CT Physics</td>
<td>Greg Zobel</td>
<td>CL-126</td>
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<tr>
<td>October 22 (F)</td>
<td>8:00 - 9:00</td>
<td>CT/PET Fusion</td>
<td>Susan Giger</td>
<td>CL-126</td>
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<tr>
<td>October 29 (F)</td>
<td>8:00 - 9:00</td>
<td>Research CT</td>
<td>Yun Liang</td>
<td>CL-126</td>
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<tr>
<td>Complete all on-</td>
<td>View 3 CD/DVDs and pass the exams as provided by Linda Cox.:</td>
<td>Turn completed</td>
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<td>1) Normal Cardiac Anatomy</td>
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<td>3) CT - Patient Safety &amp; Radiation Risk</td>
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<td>CD/DVD lectures</td>
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