

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 32 Characters including spaces)

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

7. Credit Hours: Fixed at _____ or Variable from 1 to 2

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 1 to 2

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

13. Estimated enrollment: 7 of which 0 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 11/19/10
Department Chairman/Division Director

Approved by: [Signature] Date 2/17/10
Dean

Date _____
Dean of Graduate School (when required)

Date _____
Chancellor/Vice-President

Date _____
University Enrollment Services

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.

SYLLABUS - RADI R449
Medical Imaging Theory for Nuclear Medicine Technologists
Fall 2010

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.

Date	Time	Topic	Speaker	Place
September 14 (Tu)	3:00 – 3:30	Orientation for CT & related lectures	Linda Cox	CL-126
September 21 (Tu)	3:15 – 4:15	US Guided IVs	Deb Markandy	CL-126
September 24 (F)	8:00 – 9:00	Pediatric Emergencies	Marie Holder	CL-126
October 1 (F)	9:00 – 12:15	CT Procedures	Schawayna Rayford	CL-126
October 8 (F)	8:00 – 11:00	CT 3D Reconstruction CT Physics	Louie Rankin Greg Zobel	CL-126
October 15 (F)	8:00 – 11:00	CT Physics	Greg Zobel	CL-126
October 22 (F)	8:00 – 9:00	CT/PET Fusion	Susan Giger	CL-126
October 29 (F)	8:00 – 9:00	Research CT	Yun Liang	CL-126
Complete all on-line testing as instructed by Linda Cox and complete testing on the 3 CD/DVD lectures		View 3 CD/DVDs and pass the exams as provided by Linda Cox.: 1) Normal Cardiac Anatomy 2) Iodinated Contrast Agents 3) CT- Patient Safety & Radiation Risk	Turn completed documentation in to Linda Cox	