COURSE PROFILE

Degree Program: Nuclear Engineering and Radiological Sciences   **Date:** August 25, 2005

Prepared by: Kimberlee Kearfott

COURSE #: NERS 583	**COURSE TITLE:** Applied Radiation Dose Assessment
TERMS OFFERED: Winter (Alternate Years)	**For each prerequisite below, "E" denotes Enforced and "A" denotes Advised.**
TEXTBOOKS/REQUIRED MATERIAL: course notes	**PREREQUISITES:** NERS 484 or graduate status (A)
INSTRUCTOR(S): Kimberlee Kearfott	**COGNIZANT FACULTY:** Kimberlee Kearfott
CoE BULLETIN DESCRIPTION: Principles and methods of protection against radiation hazards. Occupation, environmental, and medical aspects included. Internal and external dose assessment, dosimetry, health effects, and personnel and patient protection. Special health and medical physics computational techniques and problems.	**COURSE TOPICS:** 1. Practical dose quantities 2. Beta and skin dose assessment 3. External dose 4. Internal dose 5. Dose due to environmental radionuclides 6. Specialized medical and health physics dose computations
COURSE STRUCTURE/SCHEDULE Lecture: 2 per week @ 80 minutes	

COURSE OBJECTIVES	Links shown in brackets are to departmental educational outcomes 1. Achieve competence in assessing the risks of radiation through dose assessment and estimation [1, 2] 2. Make assumptions to simplify computational problems [1, 2] 3. Be familiar with usage of standardized engineering approaches to complex dose computations [1, 2] 4. Become familiar with several special topics in health and medical physics [3,4]
COURSE OUTCOMES For each course outcome, links to the Program Outcomes are identified.	Links shown in brackets are to course objectives 1. Understand dose quantities and their practical significance [1] 2. Be able to perform simple estimations of external dose [1-4] 3. Be able to perform simple internal assessments using standardized methods [1-4] 4. Be able to use several professional computer codes for dose assessement [1-4] 5. Appreciate various standardized dose computational approaches for different applications [1-4]
ASSESSMENT TOOLS For each assessment tool, links to the course outcomes are identified.	Links shown in brackets are to course outcomes 1. Completion of problem sets [1-5] 2. Test and examinations [1-3] 3. Course evaluation by each student at the end of the course assessing all outcomes [1-5]

Revised 08/25/05