COURSE INFORMATION FORM

DISCIPLINE Radiologic Technology
COURSE TITLE Principles of Radiographic Imaging
CR.HR 2.5 LECT HR. 2 LAB HR. 1.0 CLIN/INTERN HR. CLOCK HR.

CATALOG DESCRIPTION
Exploration of materials and factors that govern the image production process. Film imaging with related accessories is emphasized.

PREREQUISITES
RATE 160 with a grade of C or better

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Identify and properly employ the prime factors in radiographic imaging.
2. Diagram, compare and contrast x-ray photon interactions with matter.
3. Identify, describe and discuss the components and equipment in a darkroom and their appropriate usage.
4. Synthesize and illustrate latent image formation for film imaging systems.
5. Describe, demonstrate and interpret processor, cassette and screen QM procedures.
6. Synthesize the concepts related to beam limitation, beam filtration and grids and demonstrate their proper use.
7. Explain and apply basic radiation protection concepts.
9. Define radiation beam attenuation and predict the effect various patient variables will have on beam attenuation.

GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.
PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

Be workforce ready, demonstrating competence in the entry level skills of the profession
Communicate effectively and appropriately
Think critically and apply problem solving skills

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Class discussions (1-9)
2. Laboratory experiments (1, 3, 5, 6, 8)
3. Workbook activities (1-9)
4. Written Exams (1-9)
CATALOG NO.  RATE 171

COURSE OUTLINE FORM

DISCIPLINE  Radiologic Technology

COURSE TITLE: Principles of Radiographic Imaging

Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Introduction to the darkroom
   A. Location
   B. Environment
   C. Equipment
   D. Safety
   E. Design

II. The prime factors
   A. kVp
   B. mAs
   C. Distance

III. X-ray Photon interactions
   A. Photoelectric absorption
   B. Coherent scattering
   C. Compton scattering

IV. Radiation protection concepts and Reducing patient radiation dose

V. Attenuation
   A. The patient’s body
   B. Pathology

VI. Beam filtration

VII. Beam restriction
   A. Definition
   B. Purpose
   C. Types
   D. Application

VIII. Grids
   A. Function
   B. Construction
   C. Types
   D. Characteristics
   E. Selection
   F. Usage

IX. Radiographic film
   A. Storage, handling and viewing
   B. Types
   C. Construction
   D. Manufacturing
   E. Latent image formation
   F. Film characteristics

X. Film processing

XI. Film Sensitometry

XII. Film-screen Cassettes