Faculty members are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

**DEPT. RADT  COURSE NUMBER: 1130**

**NUMBER OF CREDITS:** 3 credits  **Lecture:** 2  **Lab:** 1  **OJT NA**

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<tr>
<th>Course Title:</th>
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<tr>
<td>Radiological Exposures I</td>
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**Catalog Description:**
This course provides the student with the knowledge of factors that govern and influence image quality. The course emphasis is on image quality through the discussion of factors that affect density, contrast, recorded detail, and distortion. Complex mathematical problems reflect the effect of change in exposure factors and radiographic devices on image quality.

**Prerequisites or Necessary Entry Skills/Knowledge:**
RADT1100 and MATH1111

**FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)**

Goal 1: Communication: _____ by meeting the following competencies:

Goal 2: Critical Thinking: _____ by meeting the following competencies:

Goal 3: Natural Sciences: _____ by meeting the following competencies:

Goal 4: Mathematics/Logical Reasoning: _____ by meeting the following competencies:

Goal 5: History and the Social and Behavioral Sciences: _____ by meeting the following competencies:

Goal 6: The Humanities and Fine Arts: _____ by meeting the following competencies:

Goal 7: Human Diversity: _____ by meeting the following competencies:

Goal 8: Global Perspective: _____ by meeting the following competencies:

Goal 9: Ethical and Civic Responsibility: _____ by meeting the following competencies:

Goal 10: People and the Environment: _____ by meeting the following competencies:

**Topics to be Covered (General)**
Basic physics concepts, radiographic equipment, properties of x-rays, exposure factors and application of radiographic calculations.

**Student Learning Outcomes**

1. Determine practical considerations in setting standards for acceptable image quality.
2. Analyze the relationships of factors that control and affect image exposure, contrast, detail, and distortion.
3. Assess radiographic density, contrast, detail, and distortion on radiographic images.
4. Recognize the types, functions and application of beam limiting devices and how they relate to image quality and patient exposure.
5. Recognize the types, functions, and limitations of grids.
6. Recognize the impact relationships of factors have on radiographic technique selection.
7. Identify a variety of image receptors.
8. Describe the benefits, limitations, and characteristics of a variety of image receptors.

**Is this course part of a transfer pathway: Yes ☐ No ☒

Revised Date: 08/19/20**