

## **SECTION I**

**SUBJECT AREA AND COURSE NUMBER:** RAD 102  
**COURSE TITLE:** RADIOGRAPHY SEMINAR II  
**COURSE CATALOG DESCRIPTION:**

**LECTURE HOURS PER WEEK:** **CREDIT HOURS: 4**  
**LAB HOURS PER WEEK (IF APPLICABLE):**  
**PREREQUISITES:**

## **SECTION II**

**A. SCOPE:**  
RAD 102.01 Exposure Principles II

A continuation of RAD 101.04 with added emphasis on understanding a quality radiograph as it relates to proper radiographic detail and distortion. There will be an in depth study of the x-ray machine, transformer and related electronic and transformer theory.

Also included is an investigation of Radiographic Processing and Chemistry designed to help the student understand the principles involving the action of X-rays, film, and processing chemicals. Proper processing techniques are emphasized, and a hands-on automatic processing demonstration enables the student to acquaint themselves with the workings of this equipment.

RAD 102.02 Positioning II

This course is a continuation of RAD 101.05. Positioning and relative anatomy of the shoulder, pelvic girdle, ribs and spine are learned. Clinical competency performance evaluations are required at the clinical site of related positioning theory.

- B. REQUIRED WORK:**
- C. ATTENDANCE AND PARTICIPATION:**
- D. METHODS OF INSTRUCTION:**
- E. OBJECTIVES, OUTCOMES, AND ASSESSMENT**

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
To demonstrate an understanding of:	Student Will:	As measured by:
Electricity Electrical Circuits Faraday's Law	-demonstrate understanding of the x-ray machine and the circuitry involved in producing x-radiation	Four Examinations including a Final Comprehensive Examination

Image Intensification	-understand and calculate Faraday's Law	
Positioning: Shoulder Girdle, Pelvis, Cervical, Thoracic and Lumbar Spine, Sacrum and Coccyx and S-I Joints	-demonstrate the ability to perform x-rays in the shoulder, pelvis and spine in the clinical setting	Four Tests including a Final Comprehensive Examination

**F. TEXT(S) AND MATERIALS: (if required)**  
Textbook of Radiographic Positioning and Related Anatomy, Ballinger  
Radiologic Science for Technologists, Stuart Bushong

**G. INFORMATION TECHNOLOGY: (if required)**

## **SECTION I**

**SUBJECT AREA AND COURSE NUMBER:**

RAD 102.01

**COURSE TITLE:**

EXPOSURE PRINCIPLES II

RAD SEMINAR II

**COURSE CATALOG DESCRIPTION:**

**LECTURE HOURS PER WEEK:** M – 8:45-11:15

**CREDIT HOURS:** 4

**LAB HOURS PER WEEK (IF APPLICABLE):**

**PREREQUISITES:**

## **SECTION II**

### **A. SCOPE:**

A continuation of RAD 101.04 with added emphasis on understanding a quality film. Proper radiographic details with minimum distortion will be learned. The control of scatter radiation and the construction and usage of grids, screens, and collimators will be discussed, with the air of exposure experiments. Machine and its components and properties of electromagnetism/x-ray production. Radiographic processing and chemistry are also investigated and studied.

### **B. REQUIRED WORK:**

### **C. ATTENDANCE AND PARTICIPATION:**

There will be three texts each worth 25% for a total of 75%. A cumulative final will be given worth 25% of the grade.

This course is 50% of the overall RAD 103 final grade.

This module of RAD Seminar 103 must be passed with at least 75% to continue in the program.

### **D. METHODS OF INSTRUCTION:**

Lectures, assignments, lab experiments and small group discussions

### **E. OBJECTIVES, OUTCOMES, AND ASSESSMENT**

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
To demonstrate an understanding of:	Student Will:	As measured by:
Electricity and Circuitry	- understanding how to achieve a quality radiograph	Four Tests including a Final
Faraday's Law	- defining and recognizing quality radiograph	Comprehensive Examination
Image	- understanding the factors that effect a quality	

Intensification	radiograph. - evaluate radiographic film characteristics - understand the basic design and function of the processing room - understand the various aspects of manual processing - distinguish between manual versus automatic processing chemicals. - analyze the aspects of automatic processing - distinguish between the various film artifacts - analyze the causes of film artifacts - know what silver reclamation is - know the correct storage and handling of film.	
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**F. TEXT(S) AND MATERIALS: (if required)**  
“Radiographic Science for Technologists”, Stuart Bushong

**G. INFORMATION TECHNOLOGY: (if required)**

Interactive Online Learning Courses, Elsevier Sciences

**SECTION I**

**SUBJECT AREA AND COURSE NUMBER:**  
**COURSE TITLE:**  
**COURSE CATALOG DESCRIPTION:**

RAD 102.02  
SEMINAR II

**LECTURE HOURS PER WEEK:** W- 8:45-11:15  
**LAB HOURS PER WEEK (IF APPLICABLE):**  
**PREREQUISITES:**

**CREDIT HOURS: 4**

**SECTION II**

**A. SCOPE:**

A continuation of Radiographic Procedures I with the emphasis on the anatomy and positioning of the shoulder girdle, pelvis, upper femora, and spine system. Along with classroom lecture, the student will be presented with radiographs to critique. In order to integrate theory and application, clinical labs will be scheduled in the radiographic room.

**B. REQUIRED WORK:**

**C. ATTENDANCE AND PARTICIPATION:**

Exams	75%
Final	25%

If an exam is missed, it must be made up the following week (time to be arranged by the instructor). Failure to do so will result in a “0” for a score.

Tardiness is unacceptable. Students who are tardy or absent more than three times during the semester will forfeit “ONE” grade increment (B+ to B) for their final course grade.

Paper is due on the designated date. After that date, it will not be accepted.

**D. METHODS OF INSTRUCTION:**

Lecture, assignments, labs, audio-visual.

**E. OBJECTIVES, OUTCOMES, AND ASSESSMENT**

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
To demonstrate an understanding of:	Student Will:	As measured by:
Shoulder Girdle, Pelvis,  Cervical, Thoracic and Lumbar Spine	- define the anatomy of the shoulder girdle, pelvis, bon thorax, upper femora and vertebral column. - list the articulation of the axial skeleton. - describe routine	Four Tests including a Final Comprehensive Examination

<p>Sacrum, Coccyx, S-I Joints</p>	<p>radiographic projections for imaging the shoulder girdle, pelvis, bony thorax, upper femora, and vertebral column.</p> <ul style="list-style-type: none"> <li>- explain supplementary projections of the vertebral column.</li> <li>- recall various structures demonstrated on the radiograph.</li> <li>- differentiate between an optimal radiograph and a non-diagnostic radiograph.</li> </ul>	
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**F. TEXT(S) AND MATERIALS: (if required)**

Merrill's Atlas of Radiographic Positioning and Radiologic Procedure, Vol. I, eighth edition, Ballinger.

**G. INFORMATION TECHNOLOGY: (if required)**

Interactive Online Learning Courses, Elsevier Sciences