



ANTELOPEVALLEY COLLEGE

**Academic Affairs  
Course Outline of Record**

**Academic Affairs Only**

- X New Course 5/24/2007
- COR Revision
- COR Update
- X Pre Req/Advisories 5/24/07
- X Other Changes 12/06/2007
- X Effective Date 200870
- X SLO 7/30/08

**COURSE SUBJECT & NUMBER:** RADT 103 RADT 103CL

**COURSE NAME:** Radiographic Positioning and Procedures I

**COURSE UNITS:** 9 **COURSE HOURS:** 2 hours lecture weekly and 390 total clinical hours

**COURSE REQUISITES:** *(Follow format of similar courses found in the college catalog.)*

Limitation on Enrollment: Formal admission to the Radiologic Technology program

Prerequisites: Completion of RADT 101 and 102 with a grade of "C" or better; Eligibility for MATH 102

Corequisites: Concurrent enrollment in RADT 103CL and RADT 104

**COURSE DESCRIPTION:** *(Write a short paragraph providing an overview of topics covered. Be sure to identify target audience--transfer, major, GE, degree/certificate, etc. If repeatable, state the number of times at end of description.)*

This course provides beginning theory, lab, and clinical practice in radiographic positioning and procedures of the respiratory system, bony thorax, lower and upper extremities and related joints, and abdominal cavity. Portable and trauma radiography are included. (CSU, AVC)

**COURSE OBJECTIVES:** *(Use Bloom's taxonomy to formulate concise, performance-based measurable objectives common to all students. Objectives must be closely aligned with course content, assignments, and methods of evaluation.)*

**Upon completion of course, the successful student will be able to:**

1. Locate and identify specific anatomical structures used for radiographic positioning of the chest, abdomen, lower and upper extremities.
2. Perform simulated radiographic examinations to demonstrate correct radiographic positioning of the chest, abdomen, lower and upper extremities.
3. Demonstrate radiation safety practices in manipulation and operation of equipment necessary to produce diagnostic radiographic images using tissue equivalent phantoms.
4. Identify modifications and adapt procedures to produce diagnostic radiographic images for age specific, mentally and/or physically challenged or uncooperative patients, and patients undergoing mobile examinations.
5. Perform and analyze radiographic positions and procedures accomplished using radiographic and processing equipment and supplies.
6. Evaluate outcomes of radiographic procedures to produce quality radiographic images.
7. Use accurate medical terminology to communicate information about radiologic procedures verbally and in writing.
8. Perform routine darkroom film handling and processing.
9. Relate variables that affect workload in the radiology department.
10. Demonstrate patient moving and lifting techniques with concern for patient safety, comfort, and privacy.
11. Analyze situations to determine when routine exams cannot be performed.
12. Utilize clerical and office procedures pertinent to patient care in the clinical setting.
13. Position patients for radiographic examinations involving the appendicular skeleton, abdomen, and spine.
14. Evaluate one's own performance in the radiology department.

**COURSE CONTENT:** *(Enter course content in terms of specific topics or a specific body of knowledge that each instructor must cover. Put topics in outline form with major and minor headings. Title 5 requires that each instructor must cover all material listed below.)*

- I. Introduction to radiographic positioning
  - A. Positioning patients for effective films (20 hrs positioning theory)
  - B. Positioning terminology (1 hr)
  - C. Code of ethics (1 hr)
- II. Abdominal films
  - A. Purpose
  - B. Positioning patients
  - C. Quality assurance
- III. Chest films/respiratory system
  - A. Purpose
  - B. Positioning patients
  - C. Quality assurance
  - D. Pediatric applications
  - E. Trauma and mobile applications
- IV. Upper extremity films
  - A. Purpose
  - B. Positioning
  - C. Quality assurance
  - D. Osteology and arthrology
  - E. Trauma and mobile applications
- V. Proximal humerus and shoulder girdle films
  - A. Purpose
  - B. Positioning
  - C. Quality assurance
  - D. Trauma and mobile applications
- VI. Lower extremities
  - A. Purpose
  - B. Positioning
  - C. Pediatric applications
  - D. Trauma and mobile applications
- VII. Proximal femur, pelvis and hip(s)
  - A. Purpose
  - B. Positioning
  - C. Quality assurance
  - D. Special considerations: patella and intercondylar fossa
- VIII. Miscellaneous related radiographic procedures
  - A. Contrast arthrography
  - B. Long bone measurement
  - C. Bone densitometry
  - D. Bone age
  - E. Bone surveys
- IX. Film critique (10 hrs)
  - A. Chest and respiratory films
  - B. Abdominal films
  - C. Upper extremity films
  - D. Lower extremity films
- E. Miscellaneous related procedures
- X. Auxiliary department functions (2 hrs dept. & admin. office procedures)
  - A. Processing
  - B. Transportation
  - C. Reception
  - D. Filing
- XI. Observation of radiographic procedures
  - A. Radiographic procedures
  - B. Fluoroscopic procedures
- XII. Specific clinical practice (Includes 40 hrs positioning lab + 15 hrs radiation protection lab)
  - A. Chest and bony thorax
    - i. Routine PA and Lat
    - ii. Lordotic
    - iii. Decubitus
    - iv. Spine
  - B. Abdomen
    - i. KUB
  - C. Upper extremity
    - i. Finger
    - ii. Hand
    - iii. Wrist
    - iv. Forearm
    - v. Elbow
    - vi. Humerus
    - vii. Shoulder
    - viii. A-C articulations
    - ix. Clavicle
    - x. Scapula
  - D. Lower extremity
    - i. Toes
    - ii. Foot
    - iii. Os calcis
    - iv. Ankle
    - v. Lower leg
    - vi. Knee
    - vii. Femur
    - viii. Hips
    - ix. Pelvis
- XIII. Pediatric clinical applications
  - A. Chest
  - B. Abdomen
  - C. Upper extremity
  - D. Lower extremity
- XIV. Portable clinical applications
  - A. Chest
  - B. Abdomen
  - C. Upper extremity
  - D. Lower extremity

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**TYPICAL HOMEWORK ASSIGNMENTS: READING, WRITING, COMPUTATIONAL, OTHER**

*This information is necessary for all credit courses. Assignments should be closely related to course objectives, content, and methods of evaluation. (See sample of a "Model Outline" in the AP&P Standards & Practices handbook.) Include a range of assignments (minimum of three) from which faculty may choose when designing their syllabus.*

**1. Describe nature and frequency of typical reading assignments if applicable; note if any are required:**

Thirty to forty pages of required reading from assigned text weekly.

**2. Describe nature and frequency of typical writing assignments if applicable; note if any are required:**

Weekly journal of personal lab activities (required)

Weekly laboratory reports including positioning procedures used, anatomy identification, and assessment of completed radiographic image (required)

**3. Describe nature and frequency of typical computational assignments if applicable; note if any are required:**

No HOMEWORK assignments; All computational work is completed in clinical setting under guidance of instructor or preceptor.

**4. Describe other types of homework assignments that students may be asked to complete; note if any are required:**

Answer study questions in the workbook that accompanies the textbook

**5. Describe those critical thinking skills that are derived from assignments listed above; be sure that they reflect course objectives.**

Evaluation of quality of work produced in clinical setting

**6. For categories 1-4, describe the estimated time per week it would take a student to complete homework assignments.**

*Title 5 uses the Carnegie formula for establishing units using a 2:1 ratio as follows: 1 hr. lecture = 2 hrs .homework; 2 hrs. lecture = 4 hrs .homework; etc. For example: reading textbook—2 hours; writing reports—3 hours.*

**Reading:** 4 hours per week reading text

**Writing:** 1 hour per week writing personal journal of clinical activities and completion of laboratory reports

**Computational:** none

**Other:** 2 hours per week answering study questions in workbook

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**METHODS OF INSTRUCTION:** *(Methods must be consistent with content and appropriate to objectives; state in terms of what instructor will be doing in order to present course content to students: for example, lecture, demonstration, facilitate group work, etc. Do not list specific instructional equipment.)*

Lecture, demonstration, discussion, supervised laboratory and clinical practice

**METHODS OF EVALUATION:** *(These must be clearly related to course content, assignments, and objectives in order to comply with Title 5 requirements. Describe what instructor will be looking for when evaluating various assignments and tests in order to determine whether students have met course objectives. Grades must be based on demonstrated proficiency in subject matter and determined, where appropriate, by essays, objective and essay tests, research papers or projects, problem solving exercises, or skills' demonstrations.)*

Multiple choice, short answer and essay questions to assess achievement of objectives 1, 2, 5, 6, and 7

Performance exam to assess achievement of objectives 1-5

Personal journal of activities to assess achievement of objectives 1-15

Laboratory reports to assess achievement of objectives 1-7

Satisfactory clinical performance as evaluated by an instructor to assess achievement of objectives 5 and 8-14.

**Suggested Texts or other Instructional Materials** *(list several when possible; include title, author, publisher, date, and latest edition.)*

Bontrager, Kenneth. 2005. Textbook of Radiographic Positioning and Related Anatomy, 6<sup>th</sup> ed. Mosby.

Bontrager, Kenneth, and Lampignano, J.P. 2005. Textbook of Radiographic Positioning and Related Anatomy: Workbook and Laboratory Manual, Vols. 1 & 2., 6<sup>th</sup> ed. Mosby.

RADT 103 Radiographic Positioning and Procedures I Course Packet, current edition (developed by program faculty)

Bontrager, Kenneth. 2002. Pocket Atlas: Handbook of Radiographic Positioning and Techniques. 4<sup>th</sup> ed. Bontrager Publishing Inc.