

# Course Abstract

*If you need accommodations due to a disability, contact Disability Services in Edison Hall Room 100, 732.906.2546.*

*To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.*

## **Course ID and Name: RAD 141- Radiographic Positioning, Anatomy and Pathology I**

### **Department: Radiography Education**

Course Coordinator: Kim Krapels

Office Location: LH 173 & Remote

E-mail Address: [KKrapels@middlesexcc.edu](mailto:KKrapels@middlesexcc.edu) (recommended)

Telephone: 732-548-6000 ext. 3336 (very limited on campus availability)

**Prerequisites:** None

**Co-requisites:** RAD-190, 142, 171, 128

**Course Description:** A presentation of anatomy, positioning and pathology of the upper extremity, shoulder girdle, sternum, sternoclavicular and acromioclavicular joints, thoracic cavity, rib cage, chest, and abdomen.

**General Education Status:**

**Credits: 2      Lecture Hours: 2      Lab Hours: 0**

### **Learning Outcomes:**

1. Discuss radiographic terminology and identify topographical planes, landmarks, and positioning lines.
2. Discuss routine radiographic positions/projections for the areas of interest.
3. Identify anatomical and bony structures as demonstrated radiographically.
4. Discuss exam variations to include trauma studies, mobile radiography, and age specific examinations.
5. Evaluate radiographs and discuss corrective measures if radiographs are not of diagnostic quality.
6. Discuss optional views, pathology, and other modalities.

### **Course Content Areas:**

1. Radiographic Positioning Terminology
2. General Positioning, Anatomy, and Pathology for the:
  - a. Chest
  - b. Ribs
  - c. Sternum

- d. Soft Tissue Neck
  - e. Abdomen
  - f. Fingers
  - g. Hand
  - h. Wrist
  - i. Forearm
  - j. Elbow
  - k. Humerus
  - l. Shoulder
  - m. Scapula
  - n. Clavicle
  - o. Acromioclavicular joints
3. Optional Radiographic Projections

**Textbook Requirement:**

Lampignano, J. & Kendrick L. E. (2018). *Bontrager’s Textbook of Radiographic Positioning & Related Anatomy, 9th Edition*. Mosby/Elsevier

Lampignano, J. & Kendrick L. E. (2018). *Workbook for Bontrager’s Textbook of Radiographic Positioning & Related Anatomy, 9th Edition*. Mosby/Elsevier

Lampignano, J. & Kendrick L. E. (2018). *Bontrager’s Handbook of Radiographic Positioning & Techniques, 9th Edition*. Mosby/Elsevier

**Grading Standard:**

<b>A</b>	<b>94-100</b>
<b>A-</b>	<b>90-93.99</b>
<b>B+</b>	<b>88-89.99</b>
<b>B</b>	<b>84-87.99</b>
<b>B-</b>	<b>80-83.99</b>
<b>C+</b>	<b>78-79.99</b>
<b>C</b>	<b>75-77.99</b>
<b>D</b>	<b>70-74.99</b>
<b>F</b>	<b>&lt;70</b>

**Success Criteria:**

**The student must earn a minimum course grade of “C” (75%) or higher in order to continue in sequencing of radiography courses. The following course grade distribution will be utilized:**

Homework/Class Assignments	10%
Quizzes	40%
Mid-term Examination	20%
Final Examination	30%
<b>Total-</b>	<b>100%</b>

## Program Policy and Regulation Compliance:

- Students are expected to attend all classes.
- Any student found cheating or plagiarizing will, at minimum, receive a grade of zero for that test or assignment. The instructor reserves the right to fail the student for the course and/or pursue further action including the enforcement of the “Code of Student Conduct.” Students are encouraged to become familiar with the “Code of Student Conduct” as described in the College Catalog- <http://www.middlesexcc.edu/registrar/images/cosc.pdf>. Cheating and/or plagiarism will not be condoned and will result in a course grade of “F”.
- No make-up tests or quizzes will be given.
  - If you arrive late for a test and a student has handed in a test, you will not be permitted to take that test.
  - If you miss a scheduled on-line quiz, make-ups are at the discretion of the instructor.
- Assignments are due on the date specified by the instructor. Late assignments will receive a grade penalty.
- Quizzes on Respondus Lockdown and Monitor are moderated. If you are having difficulty accessing the quiz, please contact me via email or Remind ASAP.
- During a Respondus quiz you must not access other resources (a phone, tablet, notes, books, etc.) or communicate with others. Please stay in your seat and focus on the computer screen until the quiz is complete. If an interruption occurs, briefly explain what happened by speaking directly to your webcam. And finally, remember that you cannot exit the quiz until all questions are completed and submitted for grading. Do not share any content with your classmates. If you have technical questions about anything mentioned above, please don’t hesitate to submit a ticket at <https://support.respondus.com> Links to an external site.
- All lecture sessions will be live-remote via Canvas or Zoom. Canvas lecture recordings will only be available for a maximum of two weeks after the live-remote session. You are expected to have an updated laptop or tablet, with a webcam.
- **All on-line quizzes will auto-launch** – If a quiz or test requires the use of LockDown Browser, it will automatically launch from your regular browser session. At the end of the quiz, LockDown Browser will close, allowing you to continue with your standard browser. **To be clear, the LockDown Browser application must first be installed to the computer or device.** But once installed, it will automatically launch (and close) as needed.
- Zoom or Canvas etiquette: Here are five easy-to-follow rules to ensure you are making the best virtual impression.
  - **Clothing is NOT optional.** Remember that even though you may be alone at home, your professor and classmates can SEE you!
  - **Be aware of your surroundings.** Your professor and classmates can also see BEHIND you. Let your family, partner, or roommate know you are in a live class session using your webcam.

- **Mute is your friend.** Once you log in to the virtual classroom, be sure to mute your microphone (lower left-hand corner). This will help to eliminate background noise that could distract others.
- **Raise your hand and wait to be called upon.** If you wish to speak, use the "Raise Hand" button at the center of the bottom of your screen when using Zoom. Once the professor calls on you, unmute yourself and begin speaking. When you have finished speaking, indicate you are done by saying something like "That's all" or "Thank you" and then mute your microphone again. When using Canvas you will need to interrupt me to ask your question since the chat box is not always visible when the screen is enlarged.
- **If you don't have anything nice to say...**The Zoom and Canvas chat feature is a tool to make comments and ask questions without interrupting the speaker but be aware that your comments are public and are recorded in the minutes of the session.

### **Student Class Absence Due to Covid-19-related Illness**

- If you need to miss a class due to COVID-19-related illness, you are responsible for contacting your instructor to let them know of the need as soon as possible.
- You are responsible for completing any work that you might miss due to COVID-19-related illness, including assignments, quizzes, tests, and exams.
- If you might need to miss more than two consecutive weeks of classes in any one semester due to COVID-19-related illness, you must contact the Dean of the Division of your major (Dr. Theresa Orosz, [TOrosz@middlesexcc.edu](mailto:TOrosz@middlesexcc.edu), Liberal Arts Division; Dr. Donna Howell ([DHowell@middlesexcc.edu](mailto:DHowell@middlesexcc.edu)) Business, STEM, and Health Professions Division). You may be required to provide a doctor's note of explanation. The Dean will communicate the receipt of the note (with expected end date) to the relevant faculty.

### **General Course Objectives:**

#### **Radiographic Positioning Terminology**

1. Identify the two major divisions of the skeleton: Appendicular and Axial.
2. Define each major division of the skeleton.
3. Identify the "Anatomical Position" of the body.
4. Define and identify radiographic positioning terms.
5. Name and differentiate the three (3) fundamental body planes from a posterior and lateral aspect.
6. Define and identify the standard terms used to describe the location of a body part.
7. Define and identify abbreviated terms and symbols, which are related to radiographic positioning.
8. Identify the quadrants and regions of the abdomen.
9. Name the major organs and structures within the thoracic and abdominal cavities.
10. Identify the location of the major organs and structures within the thoracic and abdominal cavities.
11. Discuss Attachment B in the Radiography Examination Content Specifications -2017 "Standard Positioning Terminology for Positioning and Projection".

## **General Positioning, Anatomy and Pathology**

*The following objectives are applicable to all of the examinations listed under the Course Content on the cover sheet of this course abstract.*

12. Name and identify the functions and articulations of the bones and joints.
13. Identify the developmental stages, anatomical structures and the location of the pediatric and adult skeleton.
14. Identify and discuss the routine radiographic positions/projections for the area of interest.
15. Identify the anatomical and bony structures as demonstrated radiographically.
16. Discuss and identify common fracture types and pathological conditions.
17. Discuss exam variations to include trauma studies, mobile radiography and age specific examinations.
18. Adapt procedures for varying body habitus types, limited mobility, body mass indices, and pathology.
19. Evaluate radiographs and discuss corrective measures if radiographs are not of diagnostic quality.
20. Identify other modalities used to examine the area of interest.

## **Optional Positioning Objectives**

21. Discuss the optional views reference by the ARRT Content Specifications for the Examination in Radiography- Implementation date: January 2017
  - A. Thorax
    - a. AP- stretcher/wheelchair
    - b. AP lordotic
    - c. AP supine
    - d. lateral decubitus
    - e. anterior and posterior obliques
  - B. Abdomen
    - a. Abdomen erect
    - b. lateral decubitus
    - c. dorsal decubitus
  - C. Wrist
    - a. PA- Ulnar Deviation
    - b. PA Axial (Stecher)
    - c. tangential carpal canal (Gaynor-Hart)
  - D. Elbow
    - a. AP partial flexion
    - b. trauma axial laterals (Coyle)
  - E. Humerus
    - a. neutral
    - b. transthoracic lateral
  - F. Shoulder
    - a. inferosuperior axial (Lawrence)
    - b. posterior oblique (Grashey)
    - c. AP neutral
    - d. scapular Y

<b>AGENDA</b> Week #1	<ul style="list-style-type: none"> <li>• Orientation</li> <li>• Terminology</li> </ul>
Week #2	<ul style="list-style-type: none"> <li>• Terminology</li> </ul>
Week #3	<ul style="list-style-type: none"> <li>• Chest</li> </ul>
Week #4	<ul style="list-style-type: none"> <li>• Chest</li> </ul>
Week #5	<ul style="list-style-type: none"> <li>• Abdomen</li> </ul>
Week #6	<ul style="list-style-type: none"> <li>• Abdomen</li> </ul>
Week #7	<ul style="list-style-type: none"> <li>• Mid-term Exam</li> </ul>
Week #8	<ul style="list-style-type: none"> <li>• Finger, Thumb and Hand</li> </ul>
Week #9	<ul style="list-style-type: none"> <li>• Wrist and Forearm</li> </ul>
Week #10	<ul style="list-style-type: none"> <li>• Elbow and Humerus</li> </ul>
Week #11	<ul style="list-style-type: none"> <li>• Shoulder</li> </ul>
Week #12	<ul style="list-style-type: none"> <li>• Clavicle, Scapula, AC Joints</li> </ul>
Week #13	<ul style="list-style-type: none"> <li>• Sternum</li> </ul>
Week #14	<ul style="list-style-type: none"> <li>• Ribs</li> </ul>
Week #15	<ul style="list-style-type: none"> <li>• Final Examination</li> </ul>

