

Updated 08/03/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

Intermediate Radiographic Procedures/ LAB

RADRL 2301_004

Stacy Reeves, BSRS, RT (R)

NOTE: This is a 16-week course.

RADIOGRAPHIC PROCEDURES LAB
RADRL 2301_004

Course Description:

Continues the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of intermediate anatomy and related pathology.

Prerequisites and/or Corequisites:

(Concurrent enrollment with RADR 2301 Intermed Rad Procedures Lab (required))

Course Notes and Instructor Recommendations:

All cell phones, pagers, or other electronic devices must be turned on silence during class. You may check your messages during breaks or between classes. Laptop computers may be used to facilitate note-taking or to view classroom visuals that are posted on BrightSpace but must be turned off or put in sleep mode during tests. No other use of the laptop will be tolerated during class. If at any time during class you create a distraction to the Instructor or your classmates, you will be asked to leave the lab.

Instructor Information:

Stacy Reeves, BSRS, RT(R)

MCC E-mail: sreeves@mclennan.edu

Office Phone Number: 254-299-8526

Office Location: CSC C-114

Office/Teacher Conference Hours:

Other Instruction Information: Available at other times with appointment

Required Text & Materials:

Title: Textbook of Radiographic Positioning and Related Anatomy

Author: Lampignano, John P., Kendrick, Leslie E.

Edition: 10th

Publisher: Mosby-Elsevier

ISBN: 978-0-323-95367-2

Title: Textbook of Radiographic Positioning and Related Anatomy Workbook
(2021)

Author: Lampignano, John P., Kendrick, Leslie E.

Edition: 10th

Publisher: Mosby-Elsevier

ISBN: 978-0-323-69423-0

MCC Bookstore Website: <http://www.mclennan.edu/bookstore/>

Methods of Teaching and Learning:

Lecture, discussion groups, group projects, lab exercises, portfolio, written reports/papers, exams, quizzes, simulations.

Course Objectives and/or Competencies:

After completion of all lectures, presentations and reading assignments the student will be able to:

1. Perform in order all steps for positioning of various parts of the body listed below.
 - a. Spine
 - b. Upper GI System
 - c. Lower GI System
 - d. Urinary System
 - e. Skull – Head work
 - f. Ribs & Sternum

On given radiographs, utilize proper evaluation criteria to determine if a film is acceptable or unacceptable. If unacceptable, give major reason why it is not.

2. Given drawings and radiographs, locate anatomic structures and landmarks.
3. Explain to the patient preparation required for each examination.
4. Describe the positioning used to visualize anatomic structures of each unit.
5. State the most common film size and proper placement of film for all exams listed.
6. Provide proper radiation protection for all projections taken, and explain the protective measures that should be taken for each examination.
7. Employ proper breathing technique on all positions and exams.
8. Demonstrate proper central ray location for all exams.
9. Choose proper degree of angulation and direction of central ray for various exams
10. Describe modification of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.

LEARNING OBJECTIVES: CERVICAL SPINE

At the completion of this unit the student should be able to:

- List and describe the bony anatomy of the cervical spine.
- Given drawings and radiographs, locate anatomic structures and landmarks.
- Explain the patient preparation required for each examination.
- Describe the positioning used to visualize anatomic structures of the cervical spine.
- List or identify the central ray location and identify the extent of field

necessary for each projection.

- Explain the protective measures that should be taken for each projection.
- Recommend the technical factors for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors for radiographs of the cervical spine.
- Describe modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.

LEARNING OBJECTIVES: THORACIC SPINE

At the completion of this unit, the student should be able to:

- List and describe the bony anatomy of the thoracic spine.
- Given drawings and radiographs, locate anatomic structures and landmarks.
- Explain the rationale for each projection.
- Explain the patient preparation required for each examination.
- Describe the positioning used to visualize anatomic structures in the thoracic spine.
- List or identify the central ray location and the extent of the field necessary for each projection.
- Explain the protective measures that should be taken for each examination.
- Recommend the technical factor for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.
- Describe modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.

LEARNING OBJECTIVES: LUMBAR SPINE, SACRUM, AND COCCYX

At the completion of this unit, the student should be able to:

- List and describe the anatomy of the lumbar spine, sacrum, coccyx.
- Given drawings and radiographs, locate anatomic structures and landmarks.
- Explain the rationale for each projection.
- Explain the patient preparation required for each examination.
- Describe the positioning used to visualize anatomical structures in the lumbar spine, sacrum, and coccyx.
- List or identify the central ray location and the extent of the field

necessary for each projection.

- Explain the protective measures that should be taken for each examination.
- Recommend the technical factors for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.
- Describe modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.

LEARNING OBJECTIVES: TRAUMA SPINE

At the completion of this chapter, the student should be able to:

- List the indications for ordering radiographs of the spine.
- Explain the rationale for each projection used for trauma patients.
- Describe the positioning used to visualize anatomic structures of the spine in the trauma patient.
- Identify the location of the central ray and extent of field necessary for each projection.
- Recommend the technical factors for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Identify the anatomic structures that are best demonstrated on each of the trauma spine radiographs.
- Given radiographs, evaluate positioning and technical factors.
- Identify alternative modalities used for imaging the trauma spine.

LEARNING OBJECTIVES: UPPER GASTROINTESTINAL TRACT

At the completion of this chapter, the student should be able to:

- List and describe the anatomy of the upper gastrointestinal (GI) tract.
- Explain the physiology of the upper GI tract.
- Given drawings and radiographs, locate anatomic structures and landmarks of the upper GI tract.
- Explain the rationale for each projection.
- Explain the patient preparation required for each examination.
- Describe the positioning used to visualize anatomic structures of the upper GI tract.
- List or identify the central ray location and the extent of the field necessary for each projection.
- Explain the protective measures that should be taken for each examination.

- Recommend the technical factors for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.

LEARNING OBJECTIVES: LOWER GASTROINTESTINAL TRACT

At the completion of this unit, the student should be able to:

- List and describe the anatomy of the large intestine.
- Explain the physiology of the lower digestive tract.
- Given drawings and radiographs, locate anatomic structures of the lower digestive tract.
- Explain the rationale for each projection.
- Explain the patient preparation required for each examination.
- Describe the positioning used to visualize anatomic structures in the large intestine.
- List or identify the central ray location and identify the extent of the field necessary for each projection.
- Recommend the technical factors for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.
- Describe modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.

LEARNING OBJECTIVES: URINARY SYSTEM

At the completion of this chapter, the student should be able to:

- List and describe the basic anatomic components of the urinary system and
- Identify the basic parenchymal unit of the kidney.
- Given drawings and radiographs, locate anatomic structures.
- Describe the physiology of the urinary system and describe its role in maintaining the body's homeostasis.
- List four common clinical indications for imaging the urinary system.
- Explain why it is necessary to use radiographic contrast media to image the urinary system.
- List the two main categories of radiographic contrast media used in intravenous urography and the factors determining the use.
State the main difference between the contrast used in intravenous urography and retrograde cystography.
- Discuss adverse patient reactions to radiographic contrast and list the medical

responses necessary for each.

- Describe typical patient preparation for each urinary procedure for both typical and atypical patients.
- Describe the positioning used in imaging the urinary system.
- List or identify the central ray location and identify the extent of field necessary for each projection.
- Explain the protective measures appropriate for each examination.
- Recommend the technical factors for producing an acceptable radiograph for each urinary procedure.

LEARNING OBJECTIVES: SKULL RADIOGRAPHY

At the completion of this unit, the student should be able to:

- Compare and contrast cranial shapes, including difference in the degree of angle between the petrous ridges and the median plane.
- Describe the location of cranial landmarks, lines, and planes.
- Given radiographs, diagrams, or photographs, identify cranial landmarks, lines, and planes.
- List the advantages and disadvantages of radiographs the cranium in the erect or recumbent position.
- State ways of providing reasonable comfort for all patient's types during cranial radiography.
- Describe the positioning errors that result in rotation and tilt.
- Given radiographs, recognize and differentiate between the common positioning errors of rotation and tilt.
- Identify special considerations when radiographing the pediatric skull.

LEARNING OBJECTIVES: BASIC SKULL POSITIONS/PROJECTIONS

At the completions of this chapter, the student should be able to:

- List and describe the bony anatomy of the skull.
- List and describe the Paranasal sinuses.
- Given drawings and radiographs, locate anatomic structures.
- Explain the general rationale for each of the five basic projections.
- Discuss how the five basic projections form the basis for all cranial examinations.
- Describe the basic positioning used to visualize anatomic structures of the skull.
- List or identify the central ray location for each projection.
- Given radiographs, evaluate positioning.
- Describe modification of procedures for atypical patients to better demonstrate the

anatomic area of interest.

LEARNING OBJECTIVES: SKULL AND FACIAL BONES

At the completion of this unit, the student should be able to:

- Given radiographs, locate anatomic structures and landmarks.
- Explain the rationale for each projection.
- Describe the positioning used to visualize anatomic structures of the skull and facial bones.
- List or identify the central ray location and identify the extent of the field of the field necessary for each projection.
- Recommend the technical factors for producing an acceptable radiograph.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.
- Describe modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest.

LEARNING OBJECTIVES: TRAUMA HEAD POSITIONING

At the completion of this unit, the student should be able to:

- Describe the circumstances and patient conditions that would necessitate a trauma skull series.
- Explain the rationale for each projection used for trauma patients.
- List or discuss the skills the radiographer should possess to perform trauma radiography.
- Describe the positioning and cassette placement used to visualize anatomic structures in the skull of the trauma patient and describe how these differ from routine projections.
- Identify the location of the central ray and the extent of the field necessary for producing each projection.
- Recommend the technical factors for producing an acceptable radiograph for each projection and discuss differences from routine studies.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.

LEARNING OBJECTIVES: RIBS AND STERNUM

At the completion of this unit, the student should be able to:

- List and describe the anatomic structures of the ribs and sternum.
- Given drawings and radiographs, locate anatomic structures and landmarks.
- Explain the rationale for each projection.

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- Explain the patient preparation required for each examination.
- Describe the positioning used to visualize anatomic structures of the bony thorax.
- List or identify the central ray location and the extent of the field necessary for each projection.
- Explain the protective measures that should be taken for each examination.
- Recommend the technical factors for producing an acceptable radiograph for each projection.
- State the patient instructions for each projection.
- Given radiographs, evaluate positioning and technical factors.
- Describe modifications of procedures for atypical or impaired patients to better demonstrate the anatomic area of interest

Course Attendance/Participation Guidelines:

If a student is not in attendance in accordance with the policies/guidelines of the class as outlined in the course syllabus as of the course census date, faculty are required to drop students from their class roster prior to certifying the respective class roster. A student's financial aid will be re-evaluated accordingly and the student will only receive funding for those courses attended as of the course census date.

Course Grading Information:

Your grade in this course will be based upon your performance in the following areas:

| <u>TASK</u> | <u>PERCENTAGE OF COURSE GRADE</u> |
|----------------------|------------------------------------------|
| Lab Challenge | 100% |

The grade for this class is a portion of RADR 1311 and is weighted at 30% of the grades for that class. TOTAL 100% = COURSE GRADE

The course grade will be applied to the following scale:

| | | |
|-------------|---|-------------------------------------------------------------------------------|
| 90% - 100% | A | REMEMBER: This is an RT course -- C is the minimum acceptable grade |
| 80% - 89% | B | |
| 75% - 79% | C | |
| 60% - 74% | D | |
| 59% or less | F | |

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Lab Attendance/Absences/Tardiness:

Lab is a time for students to enhance classroom positioning procedures in a hands-on environment. Due to time constraints, it is imperative that students make every effort to attend their assigned lab time. If a student must be absent from lab, a makeup time must be scheduled within one week of the absence, otherwise, a 10-point deduction will be deducted from the final lab grade. The student may contact their lab instructor to reschedule, or upon obtaining permission from another lab instructor to attend another scheduled lab session that is covering the same basic content. This must be taken care of within one week of the absence. Lab make-up times are at the discretion of the lab instructor.

Points will still be deducted even though a makeup time has been arranged. Failing to make up a lab within the allotted time or at all will result in a 10-point deduction from their final lab grade. Absence from lab will affect the student's grade in the following manner.

- 2-point deduction from the final lab grade for each late arrival to lab
- 5-point deduction for each absence that is rescheduled.
- 10-point deduction for each absence that is not made up or rescheduled.

Performance Goal, Expectations, and Requirements

The Radiologic Technology program coursework is designed to provide students with a structured comprehensive curriculum that prepares them for a career as a professional health care provider. It is imperative that students develop and maintain a strong knowledge base of all course material and competencies to be successful.

Therefore, the program has established a performance goal for all coursework and assessments in all RADRL courses of an 80% or higher. Students that do not achieve the minimum grade of 80% will be required to complete an activity of remediation assigned by the instructor of the course immediately following. The activity requirements will vary as they will be customized according to factors such as the students' needs, the purpose of the assignment, its content, etc., and the instructor will maintain all records of completion. Students that fail to complete the required remediation activities will receive an "Incomplete" ("I") grade for the course, regardless of overall passing grade point average, until all work is submitted. An "Incomplete" ("I") in any course must be resolved prior to the start of the following semester or the resulting grade will convert to an "F" and the student will not pass the course.

Student Behavioral Expectations or Conduct Policy:

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the educational opportunity. Students in this program are adults and are expected to act

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appropriately. Behavior that is disrespectful or disruptive will not be tolerated; the student will be asked to leave the class. Each occurrence will be documented and may result in counseling from the instructor and program director. If inappropriate behavior continues, a report will be filed with the Grievance Committee in Student Development.

Course Outline or Schedule:

| LAB POSITIONING | Spring 2024 |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------|
| January 8th week | Cervical Spine |
| C-Spine | AP axial, Lateral, Open Mouth Odontoid |
| | PA and AP Axial Obliques, Posterior and Anterior, |
| January 15th week | |
| C-spine | AP Dens (Fuchs), Lateral Swimmers, lateral Flexion/Extension, CTL |
| T-Spine | T-Spine- AP, lateral breathing , lateral expiration |
| January 22^d week | |
| Lab Practice for C & T Spine | Practice C & T Spines with Obliques |
| January 29th week | LAB CHALLENGE |
| February 5th Week | Lumbar Spine: |
| L- Spine | AP or PA, Lateral, Obliques Anterior and Posterior |
| | L-5 S-1 Spot, AP Axial L5-S1 |
| | AP: R & L Bending , Lateral: Flexion & Extension |
| February 12th Week | |
| Sacrum & Coccyx | Sacrum & Coccyx: AP Axial Sacrum, AP Axial Coccyx Lateral Combined Sacrum/ Coccyx |
| | Lateral Separate Coccyx/ Sacrum |
| | SI JOINTS: AP Axial, Anterior and Posterior Obliques |
| February 26th Week | LAB CHALLENGES |
| March 4^h – 8th SPRING BREAK | SPRING BREAK |
| March 11th Week | SKULL: |
| Skull | AP Axial (Towne's), Lateral, PA Axial (Caldwell), PA, SMV, |
| | TRAUMA SKULL: |
| | • AP Trauma- 15 cephalic |
| | • Lateral Cross Table |
| | • Trauma AP Axial Towne's |
| March 18th Week | Facial Bones: |
| Facial Bones | Water's, PA Caldwell, PA Modified Water's |
| | Lateral |

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| | |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| March 25th Week | Mandible: |
| Mandible, Nasal Bones, Orbits | Axiolateral oblique, PA, AP Axial (Towne), PA Axial, PA (modified water's) |
| | SMV Nasal Bones: Waters, Lateral, Caldwell ORBITS: Waters, Lateral, Caldwell, Modified Waters |
| April 1st Week Sinuses – ALL horizontal BEAM | PA Caldwell, Waters, SMV, Open Mouth Water's, Lateral- ALL have horizontal beam |
| April 8th Week | Lab Challenges over Head WORK |
| April 15th Week | Ribs: AP & PA Ribs, above and below diaphragm |
| Ribs | Ribs: Anterior and Posterior Obliques |
| Sternum | Sternum: Lateral , RAO Breathing and Expiration |
| | Sternoclavicular Joints: |
| Anterior Oblique Sternoclavicular Joints | PA Sternoclavicular Joints, Anterior Oblique (LAO and RAO) Sternoclavicular Joints |
| April 22th Week | FINAL LAB CHALLENGE EXAM |

[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)

(<https://www.mclennan.edu/highlander-guide/policies.html>)

Click on the link above for the college policies on attendance and absences. Your instructor may have additional guidelines specific to this course.

10/09/2023



ACADEMIC RESOURCES/POLICIES

Accommodations/ADA Statement:

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. For additional information, please visit www.mclennan.edu/disability

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

disabilities@mclennan.edu (254)299-8122
Room 319, Student Services Center

Title IX:

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at titleix@mclennan.edu or by calling, Dr. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a confidential resource for students. Any student may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>

Additionally, Title IX provides rights and protections for pregnant and newly parenting students. Go to McLennan's Title IX webpage at www.mclennan.edu/titleix/. It contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

Student Support/Resources:

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom. You can contact the Academic Support and Tutoring team via Zoom or email (ast@mclennan.edu) by going to our website (<https://www.mclennan.edu/academic-support-and-tutoring/>)

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing crew@mclennan.edu or a Success Coach by calling (254) 299-8226 or emailing success@mclennan.edu.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to <https://calendly.com/paulannespantry-mcc/15min>.

The CREW, Success Coaches, and Paulanne's Pantry are all located on the second floor of the Student Services building in Success Coaching Services.

MCC Foundation Emergency Grant Fund:

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an

emergency grant fund that may be able to assist you. Please go to <https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html> to find out more about the emergency grant. The application can be found at https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf

MCC Academic Integrity Statement:

Please view our [Academic integrity statement](#) for more information about academic integrity, dishonesty, and cheating. The unauthorized use of artificial intelligence (AI) for classwork can be a violation of the College's General Conduct Policy. Whether AI is authorized in a course and the parameters in which AI can be used in a course will be outlined by each instructor.

Minimum System Requirements to Utilize MCC's D2L|Brightspace:

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-and-Staff-Commons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

Minimum Technical Skills:

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

Backup Plan for Technology:

In the event MCC's technology systems are down, you will be notified via your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

Email Policy:

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are expected to read and, if needed, respond in a timely manner to college emails. For more information about your student email account, go to www.mclennan.edu/studentemail.

Instructional Uses of Email:

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

Email on Mobile Devices:

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email Helpdesk@mclennan.edu for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

Forwarding Emails:

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support](#) or email helpdesk@mclennan.edu.

Disclaimer:

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.