



**LAMAR INSTITUTE
OF TECHNOLOGY**

Basic Radiographic Procedures (RADR 1411 3A1)

INSTRUCTOR CONTACT INFORMATION

Instructor: Brenda A Barrow

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Office Location: MPC 232

Office Hours: Posted on door and in Starfish

CREDIT

4 Semester Credit Hours (3 hours lecture, 2 hours lab)

MODE OF INSTRUCTION

Face-to-Face: This course will be taught in a multimedia format. Lectures, demonstrations, and discussion will be utilized to enhance the cognitive learning process. Students will have outside reading and out of class homework assignments periodically in the semester. The student will be required to utilize both reading and listening skills.

PREREQUISITE/CO-REQUISITE:

RADR 1201 Introduction to Radiography and RADR 1203 Patient Care

COURSE DESCRIPTION

An introduction to radiographic positioning terminology, manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

COURSE OBJECTIVES

Upon completion of this course, the student will be able to

- Define radiographic positioning terms
- Manipulate equipment
- Perform basic level procedures in positioning
- Align anatomical structures and equipment
- Evaluate images

REQUIRED TEXTBOOK AND MATERIALS

- A computer with internet access. The computer must be able to run current programs and platforms such as Windows 10 and the internet must be reliable and robust. The

course has an online component and will move to a fully online format if necessary. The computer must have a camera and microphone for online conferencing.

- Bontrager, Kenneth: *Radiographic Positioning and Related Anatomy* 11th edition, C.V. Mosby, 2020, ISBN# 978-0-323-93613-2 is required to be brought to class each day.
- Bontrager, Kenneth: *Workbook for Radiographic Positioning and Related Anatomy* 11th edition, C.V. Mosby, 2020, ISBN# 978-0-323-93615-6 is strongly encouraged as a purchase. Assignments from the workbook will be in BlackBoard but it is an excellent study tool.
- *Mosby Comprehensive Radiography Review Workbook*, 978-0323694889 is encouraged as a purchase to be used throughout the program as a study tool.
- Clover Learning Student Plan online access **26-month paid to LIT cashier who will then send one payment for the whole group**. Required for online assignments.
- #882 Scan-trons and pencils

COURSE POLICIES:

1. No food, drinks, or use of tobacco products in class.
2. Phones, headphones, and any other electronic devices must be turned off while in class.
3. Recording devices may be used except during tests and when otherwise stated by the instructor. This includes all recording devices i.e. meta glasses, phones, recorders, etc.
4. Lap top computers, I-pad... may be used to take notes during class but may not be used to “surf” the internet, look-up answers, nor anything not directly related to note taking.
5. It shall be considered a breach of academic integrity (cheating) to use or possess on your body any of the following devices during any examination unless it is required for that examination and approved by the instructor: Cell phone, meta glasses, smart watch/watch phone, laptop, tablet, electronic communication devices (including optical), and earphones connected to or used as electronic communication devices.
 - *This is a violation of the Radiologic Technology Student Handbook and will result in dismissal from the program.*

Students with special needs and/or medical emergencies or situations should communicate with their instructor regarding individual exceptions/provisions. It is the student’s responsibility to communicate such needs to the instructor.
6. Do not bring children to class.
7. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an ‘F’ in the course.
8. **ATTENDANCED POLICY:** Class attendance is important to ensure that a student receives the knowledge and skills necessary to be successful in the Radiologic Technology program. Students are expected to be in class on time. If a student is tardy they may enter only if they do so quietly.

When it becomes necessary to miss a session, it is the responsibility of the *student* to contact the instructor and to inquire about assignments. I will *not* distribute the PowerPoints missed. The student must get the notes from a classmate. If a major test is missed, the test will be administered at the first day the student returns to class or at a time designated by the instructor. There will be a **ten (10) point** reduction for make-up exams.

To encourage class attendance, students that miss two (2) or more class sessions in a unit will have a five (5) point reduction on that test. Students who are tardy four (4) times will equal one (1) absence.

9. BlackBoard will be utilized for homework assignments. Quizzes will be administered in class. If a student misses an assignment for *any* reason **it may not** be made up. Quiz/homework grades will be averaged for one (1) test grade. Students will be allowed to drop their **lowest** quiz/homework grade at the end of the semester. If more than one quiz is missed a zero (0) will be given. This is already configured in Black Board gradebook. NO LATE WORK IS ACCEPTED!

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the [Academic Calendar](#). If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session.

GRADE SCALE:

Numeric to letter grade conversion:

A = 93 - 100

B = 84 - 92

C = 77 - 83

D = 60 - 76

F = 0 - 59

*** A minimum of 77% is required for successful completion of this course!**

COURSE EVALUATION:

- Written Exams (4) 15% each = 60%
- Homework & Quizzes 10%
 - Videos and quizzes will be posted in Black Board. These will be included with

other quiz/homework grades.

- o Assignments will be made from the Workbook and will count as quiz/homework grades.

- Laboratory Performance 15%
- Comprehensive Final 15%

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's

Academic Dishonesty Policy available in the Student Catalog & Handbook at

<http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty>.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires

to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

RADR 1411 COURSE CALENDAR**12:30- 1:45 TUES/THURS** Course Schedule: all dates are tentative and subject to change

DATE	TOPIC	CH	ASSIGNMENTS (Due on this Date)
25 Aug	Course / Introduction General Anatomy & Terminology		Homework opens 8:00 am
27 Aug	Introduction to Positioning	CH 1	Homework due 8:00 pm
1 Sept	Radiographic Anatomy & Positioning of the Chest	CH 2	
3 Sept	Radiographic Anatomy & Positioning of the Abdomen	CH 3	
8 Sept	Diverse Body Habitus & Film Critique Chest & Abdomen		Unit 1 Workbook assignment
10 Sept	Anatomy & Positioning of the Bony Thorax & Image Critique	CH 10	<i>VIDEO / QUIZ 1 & 2</i>
15 Sept	Test I CH 1, 2, 3, & 10		
17 Sept	Go Over Test & Radiographic Anatomy of the Upper Limb	CH 4	
22 Sept	Radiographic Positioning of the Upper Limb		
24 Sept	Radiographic Anatomy & Positioning of the Proximal Humerus & Shoulder	CH 5	Unit 2 Workbook assignment
29 Sept	Bone Density (DEXA), Bone Age, & Bone Length & Image Critique Upper Limb & Review		<i>VIDEO / QUIZ 3 & 4 & Body Worlds DVD -- Movement</i>
1 Oct	Test II CH 4 & 5		
6 Oct	Go over Test & Lab for 1313		
8 Oct	Radiographic Anatomy of the Lower Limb	CH 6	
13 Oct	Positioning of the Lower Limb		
15 Oct	Radiographic Anatomy & Positioning of the Pelvic Girdle & Femur	CH 7	Unit 3 Workbook assignment
20 Oct	Arthrography & Image Critique Lower Limb, & Review		<i>VIDEO / QUIZ 5 & 6</i>
22 Oct	Test III Chapters 6 & 7		
27 Oct	Go Over Test & Radiographic Anatomy & Positioning of the Cervical	CH 8	
29 Oct	Radiographic Anatomy & Positioning of the Thoracic		
3 Nov	Radiographic Anatomy & Positioning of the Lumbar & Myelography & Lumbar Puncture Exams	CH 9	Unit 4 Workbook assignment
5 Nov	Radiographic Anatomy & Positioning of the Sacrum & Coccyx & Image Critique Spines & Review		
10 Nov	Test IV Chapters 8 & 9		
17 Nov	Lab for 1313		
19 Nov	Go Over Test & Final Review		
24 Nov	Prep Bowl both classes		
26 Nov	THANKSGIVING		
1 Dec	Comprehensive Final Exam		

ADDITIONAL COURSE POLICIES/INFORMATION

PRE-TEST REVIEW

Assignments will be made in **Clover Learning Student Plan** as review for Unit Tests. If the review assignments are not completed by the scheduled start time of the exam, the student **will not be allowed to take the exam and penalty points will be applied for make-up exam.**

MANDATORY REMEDIATION

Any student who fails to pass a Unit test with at least a 77 will be required to attend mandatory tutorial. This may be done before or after class or during the lunch break. The tutorial may be individual or in a group session. There will be remediation assignments in Clover Learning Student Plan. ***These must be successfully completed by the due date or two points will be deducted from the test grade for every class it is late.***

COURSE OUTLINE:

By the end of the semester the student will be able to:

I. SKELETAL ANATOMY, POSITIONING NOMENCLATURE & BODY PLANES

- A. Understand general, systemic, and skeletal anatomy and physiology
- B. Identify the name and number of bones associated with the human body
 - 1. axial skeleton
 - 2. appendicular skeleton
- C. Identify specified bones by classification
 - 1. long bones
 - 2. short bones
 - 3. flat bones
 - 4. irregular bones
 - 5. sesamoid bones
- D. Identify the layers of bone
- E. Identify and explain bone development
- F. Identify and give examples of the classification of joints
 - 1. synarthrodial
 - 2. amphiarthrodial
 - 3. diarthrodial
- G. Identify and demonstrate the common principles, rules of positioning, and various body positions
- H. Define and demonstrate relationship terms
- I. Define terms used to describe the human body
 - 1. body planes
 - 2. four body habitus types
 - 3. body cavities
 - 4. four quadrants
 - 5. nine regions

II. CHEST AND ABDOMEN ANATOMY AND POSITIONING

- A. Identify the anatomy landmarks of the chest and abdomen

- B. Identify the anatomical structure and function of the respiratory system
- C. Identify and explain the radiographic positions of the chest
 - 1. PA
 - 2. AP
 - 3. lateral
 - 4. Apical Lordotic
 - 5. Decubitus
- D. Identify and explain the radiographic positions of the abdomen
 - 1. AP
 - 2. Upright
 - 3. Decubitus
- E. Demonstrate the specific knowledge and skills associated with positioning of the chest and abdomen in a lab simulation
- F. Discuss modifications in positioning & technique for obese patients.

III. UPPER EXTREMITIES AND SHOULDER GIRDLE

- A. Identify the anatomical landmarks of the upper extremities and shoulder girdle
- B. Identify and explain the radiographic positions of the upper extremities and shoulder girdle
 - 1. hand
 - 2. wrist
 - 3. forearm
 - 4. humerus
 - 5. shoulder
 - 6. clavicle
 - 7. scapula
- C. Demonstrate the specific knowledge and skills associated with positioning of the upper extremities and shoulder girdle in a lab simulation
- D. Discuss radiographic procedures for bone studies
 - 1. Bone age
 - 2. Bone length
 - 3. Bone density (DEXA)

IV. LOWER EXTREMITIES AND PELVIC GIRDLE

- A. Identify the anatomical landmarks of the lower extremities and pelvis
- B. Identify and explain the radiographic positions of the lower extremities and pelvis
 - 1. foot
 - 2. calcaneus
 - 3. ankle
 - 4. lower leg
 - 5. knee
 - 6. femur
 - 7. hip
 - 8. pelvis
 - 9. SI Joints

- C. Demonstrate the specific knowledge and skills associated with positioning of the lower extremities and pelvis in a lab simulation
- D. Discuss DEXA bone density studies, lone bone survey, and bone age studies.
- E. Arthrography
 - 1. Identify the various types of joints and their movement.
 - 2. List the indications and contraindications for the procedure.
 - 3. Identify the type of contrast medium used for the procedure.
 - 4. Describe the patient preparation for the procedure.
 - 5. List the specialized equipment necessary for the procedure.
 - 6. Describe the patient positioning for the procedure.
 - 7. Explain the other modalities used to evaluate the joints and muscles.

V. BONY THORAX

- A. Identify the anatomical landmarks of the bony thorax
- B. Identify and explain the radiographic positions of the bony thorax
 - 1. ribs
 - 2. sternum
- C. Demonstrate the specific knowledge and skills associated with positioning of the bony thorax in a lab simulation

VI. VERTEBRAL COLUMN

- A. Identify the anatomical landmarks of the vertebral column
- B. Identify and explain the radiographic positions of the vertebral column
 - 1. cervical
 - 2. thoracic
 - 3. lumbar
 - 4. sacrum
 - 5. coccyx
- C. Demonstrate the specific knowledge and skills associated with positioning of the vertebral column in a lab simulation
- D. Discuss lumbar puncture and myelography exams

VII. IMAGE CRITIQUE

- A. Utilize critical thinking skills to critique radiograph for proper technique, patient positioning, and image appearance
- B. Utilize reasoning and problem-solving skills to determine what must be done to the patient, tube, or film to correct certain errors demonstrated on radiographs

VIII. ASRT Patient Centered Care for Diverse Populations videos

- A. Fundamentals
- B. Diverse Body Habitus
- C. Elderly Patients
- D. Pediatric Patients
- E. Cultural Competence
- F. Equitable Patient care