Basic Radiographic Procedures (RADR 1411 3A1)

INSTRUCTOR CONTACT INFORMATION
Instructor: Brenda A Barrow
Email: babarrow@lit.edu
Office Phone: 409-241-9829
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.

- Clover Learning Student Plan (RadTechBootCamp)
- #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 test reviews and when otherwise stated by the instructor.
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, 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. **ATTENDANCE 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.

10. Any student who fails to pass a Unit test will be required to attend mandatory tutorial. This may be done before or after class or at lunch break. The tutorial may be individual or in a group session. There will be remediation assignments in Clover Learning Student Plan/RadTechBootCamp. *These must be successfully completed or the student will not be allowed to take the next unit exam.*

**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.
<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>READINGS (Due on this Date)</th>
<th>ASSIGNMENTS (Due on this Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 Aug</td>
<td>Course / Introduction General Anatomy &amp; Terminology</td>
<td></td>
<td>Homework opens 8:00 am</td>
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<tr>
<td>24 Aug</td>
<td>Introduction to Positioning</td>
<td>CH 1</td>
<td>Homework due 8:00 pm</td>
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<tr>
<td>29 Aug</td>
<td>Radiographic Anatomy &amp; Positioning of the Chest</td>
<td>CH 2</td>
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<tr>
<td>31 Aug</td>
<td>Radiographic Anatomy &amp; Positioning of the Abdomen</td>
<td>CH 3</td>
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<tr>
<td>5 Sept</td>
<td>Diverse Body Habitus</td>
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<td>7 Sept</td>
<td>Anatomy &amp; Positioning of the Bony Thorax</td>
<td>CH 10</td>
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<tr>
<td>12 Sept</td>
<td>Film Critique Chest, Abdomen, &amp; Bony Thorax &amp; Review</td>
<td></td>
<td>Unit 1 Workbook assignment due</td>
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<tr>
<td>14 Sept</td>
<td>Test I CH 1, 2, 3, &amp; 10</td>
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<td>VIDEO / QUIZ 1 &amp; 2 due</td>
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<tr>
<td>19 Sept</td>
<td>Go Over Test &amp; Radiographic Anatomy of the Upper Limb</td>
<td>CH 4</td>
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<tr>
<td>21 Sept</td>
<td>Radiographic Positioning of the Upper Limb</td>
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<td>26 Sept</td>
<td>Radiographic Anatomy &amp; Positioning of the Proximal Humerus &amp; Shoulder</td>
<td>CH 5</td>
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<td>28 Sept</td>
<td>Bone Density (DEXA), Bone Age, &amp; Bone Length</td>
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<td>3 Oct</td>
<td>Film Critique Upper Limb &amp; Body Worlds DVD -- Movement &amp; Review</td>
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<td>Unit 2 Workbook assignment due</td>
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<td>5 Oct</td>
<td>Test II CH 4 &amp; 5</td>
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<td>VIDEO / QUIZ 3 &amp; 4 due</td>
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<tr>
<td>10 Oct</td>
<td>Go over Test &amp; Radiographic Anatomy of the Lower Limb</td>
<td>CH 6</td>
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<td>12 Oct</td>
<td>Positioning of the Lower Limb</td>
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<td>17 Oct</td>
<td>Radiographic Anatomy &amp; Positioning of the Pelvic Girdle &amp; Femur</td>
<td>CH 7</td>
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<td>19 Oct</td>
<td>Arthrography</td>
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<td>24 Oct</td>
<td>Film Critique Lower Limb, &amp; Test Review</td>
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<td>Unit 3 Workbook assignment due</td>
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<tr>
<td>26 Oct</td>
<td>Test III Chapters 6 &amp; 7</td>
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<td>VIDEO / QUIZ 5 &amp; 6 due</td>
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<td>31 Oct</td>
<td>Go Over Test &amp; Radiographic Anatomy &amp; Positioning of the Cervical</td>
<td>CH 8</td>
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<td>2 Nov</td>
<td>Radiographic Anatomy &amp; Positioning of the Thoracic</td>
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<td>7 Nov</td>
<td>Radiographic Anatomy &amp; Positioning of the Lumbar</td>
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<td>9 Nov</td>
<td>Radiographic Anatomy &amp; Positioning of the Sacrum &amp; Coccyx</td>
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<td>14 Nov</td>
<td>Myelography &amp; Lumbar Puncture Exams</td>
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<td>16 Nov</td>
<td>Film Critique Spines &amp; Test Review</td>
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<td>Unit 4 Workbook assignment due</td>
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<tr>
<td>21 Nov</td>
<td>Test IV Chapters 8 &amp; 9</td>
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<tr>
<td>23 Nov</td>
<td>THANKSGIVING</td>
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<tr>
<td>28 Nov</td>
<td>Go Over Test &amp; Prep Bowl both classes</td>
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<td>30 Nov</td>
<td>Comprehensive Final Exam</td>
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<td>5 Dec</td>
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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.
  - 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
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](http://www.lit.edu). Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

**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.

**ADDITIONAL COURSE POLICIES/INFORMATION**

**COURSE OUTLINE:**

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

1. **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

LAB