

DMSO 1341 Abdominopelvic Sonography

CREDIT

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

MODE OF INSTRUCTION

Face to Face

PREREQUISITE/CO-REQUISITE:

COURSE DESCRIPTION

Normal anatomy and physiology of the abdominal and pelvic cavities as related to laboratory data, scanning techniques, transducer selection, and scanning protocols.

COURSE OBJECTIVES

- Upon completion of this course, the student will be able to:
 - Identify the sonographic appearances of normal and abnormal abdominal and pelvic structures
 - Explain physiology of abdominal and pelvic organs
 - Describe the ergonomic scanning techniques according to standard protocol guidelines

INSTRUCTOR CONTACT INFORMATION

Instructors:

Lecture: Tracy Ryals, RDMS, RVT

Lab: Tracy Ryals, RDMS, RVT
Lacey Stinebrickner, BGS, RDMS

Email: taryals@lit.edu

Office Phone: Mrs. Ryals 409-257-5130
Mrs. Stinebrickner 409-257-0061

Office Location: Gateway #115

Office Hours: Please see Starfish to schedule an appointment

REQUIRED TEXTBOOK AND MATERIALS

Diagnostic Medical Sonography: Abdomen and Superficial Structures 5th Edition; by Diane M. Kawamura; Tanya D. Nolan ISBN 978-1-9751-7497-2

ATTENDANCE POLICY

- Students are expected to be in class. Absences must be limited to serious illness with a Dr.'s note and/or immediate family emergencies. **Three (3) absences will result in a letter grade reduction.** Excessive tardiness (more than 10 minutes per class or more than 2 consecutive classes) will result in an absence being awarded.
- The terminology ***excused*** or ***unexcused*** absence does not apply to this class. All absences are equal. Therefore, no matter the circumstances involved in the student's absence it will be counted towards the total for the semester.



**LAMAR INSTITUTE
OF TECHNOLOGY**

- The sign-in sheet will be taken up 15 minutes after class starts. If you are more than 15 minutes late to class you will be counted absent. Also, if you leave the classroom for more than 15 minutes you will be counted absent.
- When absent, the student is required to contact the instructor and make them aware of the absence and to obtain any missed assignments and/or information for the missed class.
- When absent, the student is required to contact the instructor to obtain make-up assignment for missed class. It is the student's responsibility to make up lab assignments or a grade of zero will be given

DROP POLICY

If you wish to drop a course, you are 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.

COURSE CALENDAR

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
Tues 08/25	Syllabus Introduction	Chapter 2	
Thurs 08/27	Finish Introduction Begin Chapter 4	Chapter 2 Chapter 4	
Tues 09/01	Abdominal Wall and Diaphragm; Peritoneal Cavity	Chapter 4 & 5	
Thurs 09/03	Vascular Structures	Chapter 6	
Tues 09/08	Portal Venous System & Hemodynamics	Chapter 6	
Thurs 09/10	Review Activity		Unit I Quiz due by 11:59 pm
Tues 09/15	Unit 1 Test	Chapter 7	Test 1
Thurs 09/17	Liver	Chapter 7	
Tues 09/22	Liver	Chapter 7	
Thurs 09/24	Gallbladder & Biliary System	Chapter 7	
Tues 09/29	Gallbladder & Biliary System	Chapter 8	Unit II Quiz Due by 11:59 PM
Thurs 10/01	Unit 2 Test	Chapter 8	Test 2
Tues 10/06	Pancreas	Chapter 9	
Thurs 10/08	Kidneys / Urinary System	Chapter 13	
Tues 10/13	Continue Urinary	Chapter 13	Unit III Quiz due by 11:59 pm
Thurs 10/15	Kidney Activity/Review		

Tues 10/20	Unit 3 Test		Test 3
Thurs 10/22	Spleen	Chapter 11	
Tues 10/27	GI Tract	Chapter 15 & 16	
Thurs 10/29	Adrenal Glands/Retroperitoneum	Chapter 17	
Tues 11/03	Thyroid/Parathyroid		<i>Unit IV quiz due by 11:59 pm</i>
Thurs 11/05	Unit 4 Test		<i>Test 4</i>
Tues 11/10	Breast	Chapter 18	
Thurs 11/12	Breast	Chapter 18	
Tues 11/17	Scrotum	Chapter 19	
Thurs 11/19	Prostate	Chapter 14	<i>Unit V Quiz due by 11:59 pm</i>
Tues 11/24	Unit 5 Test Scan Feast		Test 5
Thurs 11/26	Happy Thanksgiving!!		
Tues 12/01	Review for Final		
Thurs 12/03	Final Exam		Final Exam

*** This schedule is subject to change at the discretion of the instructor.**

Lab Attendance & Daily Participation

Attendance & active participation are essential components of the lab experience. Each lab day includes a daily lab participation grade based on your attendance, professionalism, cooperation, and active engagement in the lab.

- **Absence:**

If you are absent from lab for any reason or leave lab early your daily lab participation grade for that day will be zero (0).

- **Early Scanning:**

If you quit scanning before the scheduled completion of the lab without instructor approval, 10 points will be deducted from your daily participation grade.

- **Disruptive Behavior:**

Disruptive or unprofessional behavior that interferes with the learning environment will result in a 10-point deduction from your daily participation grade.

- **Patient Cooperation:**

Students are expected to be cooperative, respectful, and professional when serving as patients for their classmates. Failure to be a cooperative patient will result in a 10-point deduction from the daily participation grade. Please remember that lab participation is more than simply being present. Your professionalism, cooperation, and willingness to contribute to a positive learning environment are all important parts of your success in lab.

Scanning Lab Calendar

DATE	TOPIC
08/25	Clean off ultrasound machines; Begin aorta
09/01	Scan aorta
09/08	Scan liver
09/15	Scan liver
09/22	Scan liver
09/29	Gallbladder/Biliary System
10/06	Gallbladder/Biliary System
10/13	Pancreas
10/20	Pancreas
10/27	Kidneys/Spleen
11/03	Kidneys/Spleen
11/10	Thyroid/Male Scrotum/Breast
11/17	Practice for scan final
11/24	Scan Feast
12/01	Practice for Scan final
12/02-12/03	Scan Finals

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Lecture 85% (55% exams, 5% quizzes, 25% final exam)

Lab 15% (protocol average)

GRADE SCALE

- 93-100 A
- 85-92 B
- 77-84 C (*Must have a final average of 77 or higher to continue*)
- 69-76 D
- 0-68 F

Course Outline

- A. Health Assessment
 1. Patient Interview Process
 - a. History & Physical
 2. Assessment
 3. Professionalism
 4. Patient History Questions
 5. Differential Diagnosis
 6. Ultrasound in Patient Management
- B. Abdominal Wall and Chest
 1. Abdominal Wall Regions
 2. Abdominal Cavities
 3. Abdominal Wall Muscles
 4. Thoracentesis & Paracentesis
 5. Peritoneum & Retroperitoneum
 - a. Anatomy
 - b. Anatomical Relationships

- c. Vascular Supply
 - d. Laboratory Values
 - e. Sonographic Appearance
 - f. Ligaments
 - g. Pelvic Cavities and potential spaces
- C. Vascular System
 - 1. Function
 - 2. Blood Vessel Structure
 - 3. Arterial Abdominal Anatomy
 - 4. Venous Abdominal Anatomy
- D. Liver
 - 1. Structure
 - 2. Ligaments & Fissures
 - 3. Lobar Anatomy
 - 4. Vascular Supply
 - 5. Doppler patterns
 - 6. Functions
 - 7. Laboratory Values
 - 8. Anatomical Variants
 - 9. Sonographic Appearance
- E. Portal Venous System
 - 1. Functions
 - 2. Physiology
 - 3. Sonographic Appearance
- F. Abdominal Doppler
 - 1. Color Maps
 - 2. Directional Flow
 - 3. Hemodynamics
- G. Gallbladder/Biliary System
 - 1. GB Anatomy
 - 2. Bile duct anatomy
 - 3. Vascular Supply
 - 4. Functions
 - 5. Laboratory Values
 - 6. Anatomical Variants
 - 7. Sonographic Appearance
- H. Pancreas
 - 1. Anatomical landmarks
 - 2. Ductal anatomy
 - 3. Vascular Supply
 - 4. Functions
 - 5. Laboratory Values
 - 6. Anatomical Variants
 - 7. Sonographic Appearance
- I. Spleen
 - 1. Anatomy
 - 2. Anatomical Relationships
 - 3. Functions
 - 4. Vascular Supply
 - 5. Laboratory Values
 - 6. Anatomical Variants
 - 7. Sonographic Appearance
- J. Gastrointestinal Tract
 - 1. Anatomy
 - 2. Functions
 - 3. Sonographic Appearance
- K. The Kidneys
 - 1. Anatomy

2. Anatomical Relationships
3. Functions
4. Vascular Supply
5. Laboratory Values
6. Normal Variants
7. Sonographic Appearance
- L. The Lower Urinary System
 1. Anatomy
 2. Anatomical Relationships
 3. Functions
 4. Vascular Supply
 5. Laboratory Values
 6. Anatomical Variants
- M. Peritoneum
 1. Anatomy
 - i. Potential spaces
 2. Anatomical Relationships
 3. Vascular Supply
 4. Laboratory Values
 5. Sonographic Appearance
- N. Retroperitoneum (includes adrenal glands)
 1. Anatomy
 2. Anatomical Relationships
 3. Vascular Supply
 4. Laboratory Values
 5. Sonographic Appearance
- O. Breast
 1. Anatomy
 2. Functions
 3. Vascular Supply
 4. Documentation
 5. Mammograms
 6. Sonographic Appearance
 7. Anatomical Variants
- P. Thyroid/Parathyroid
 1. Anatomy
 2. Anatomical Relationships
 3. Functions
 4. Vascular Supply
 5. Laboratory Values
 6. Sonographic Appearance
- Q. Scrotum/Prostate
 1. Anatomy
 2. Functions
 3. Vascular Supply
 4. Laboratory Values
 5. Anatomical Variants
 6. Sonographic Appearance

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 \(lit.edu\)](https://www.lit.edu/specialpopulations).

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.

ADDITIONAL COURSE POLICIES/INFORMATION

- No food, drinks, or tobacco products are allowed in class.
- Cell phones and all electronic devices must be turned off during class.
- Children are not permitted in class at any time.
- Assignments are due at the beginning of class or by the date listed in the syllabus.
 - **Late work will not be accepted and will receive a grade of zero.**
- If you fail an exam, you **MUST** make an appointment and meet with the instructor to go over the exam.

Exam Policy – In-Person

- All in-person exams will be given on the dates listed unless changed by the instructor.
- If you miss an exam:
 - You will lose 10 points from your test grade.

- An additional 10 points will be deducted for each class day missed afterward.
- If you attend any sonography class on the test day, you must take the test that day or receive a zero.
- Make-up exams must be taken on the first-class day you return.

Academic Integrity Policy

- It is considered cheating to use or possess the following items during any exam (unless approved for use):
 - **Cell phones, smart watches, laptop, tablet, earphones/buds, Meta glasses, unauthorized calculators or any communication device.**
- **Cheating on any lecture or lab exam will result in:**
 - **Immediate dismissal from the program.**
 - **A final course grade of F.**

Exam Policy – Online

- Online exams will be given on scheduled dates unless changed by the instructor.
- If you miss the deadline:
 - 10 points will be deducted every hour the exam is late, starting from the posted due time.
 - *Example: If the exam is due at 7:00 PM and submitted at 7:01 PM, 10 points will be deducted; at 8:00 PM, 20 points, etc.*
 - After midnight, the exam receives a zero.
- All online exams will be administered through Blackboard using LockDown Browser with Webcam and Screen Monitoring.

LockDown Browser Instructions

- Disable all computer notifications before testing.
- Open the “LockDown Browser” from your desktop (or Applications folder on Mac).
- Close all blocked programs when prompted.
- Log in to Blackboard and begin the exam.
- Complete the Startup Sequence, including the webcam check and environment scan.

Online Exam Violations – Point Deductions

20-Point Deductions:

- Poor lighting in the testing environment.
- Face is not visible always.
- Background noise (TV, music, talking, etc.).
- Reading questions aloud.
- Wearing sunglasses, hats, hoodies, earbuds, or headphones (ears must remain fully visible).

Repeat of any above violation on another exam = 50-point deduction.

Major Violations – 50-Point Deduction or Zero

- Not in a private location (if another person is seen or heard).
- Use or visibility of phones, notes, books, or papers during the exam.
- Leaving the room for any reason during the exam.
- Suspicious activity that appears to be cheating.

These violations may result in a zero or 50-point deduction at the instructor’s discretion.

Academic Integrity Policy

- It is considered cheating to use or possess the following items during any exam (unless approved for use):
 - **Cell phones, smart watches, laptop, tablet, earphones, or any communication device.**
- **Cheating on any lecture or lab exam will result in:**
 - **Immediate dismissal from the program.**
 - **A final course grade of F.**

Testing Tips (Online Exams)

1. Use Google Chrome as your browser.
2. You must have a webcam and microphone connected.
3. Be prepared to scan your testing area. If you can't move your computer, use a mirror to show your surroundings.

Important Notes

- You are responsible for following all testing requirements.
- Completing the verified signature portion of the exam confirms your agreement to follow all rules.
- **No extra credit is given in this course.**
- You are allowed ONE test reset per semester for technical difficulties with on-line exams only. No exceptions.