

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.

Approved: TR-8/24



**LAMAR INSTITUTE
OF TECHNOLOGY**

- 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.
- 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 8/27	Syllabus; Introduction	Chapter 2	
Thurs 8/29	Finish Introduction; Begin Chapter 4	Chapter 2; Chapter 4	
Tues 9/03	Abdominal Wall and Diaphragm; Peritoneal Cavity	Chapter 4 & 5	
Thurs 9/05	Vascular Structures	Chapter 6	
Tues 9/10	Portal Venous System & Hemodynamics	Chapter 6	Unit I Quiz due by 11:59 pm
Thurs 9/12	Exam #1 in class		Exam #1
Tues 9/17	Liver and Portal System	Chapter 7	
Thurs 9/19	Liver	Chapter 7	
Tues 9/24	Liver	Chapter 7	
Thurs 9/26	Liver	Chapter 8	
Tues 10/01	Gallbladder & Biliary System		
Thurs 10/03	Test #2 in class	Chapter 9	Test #2
Tues 10/08	Pancreas	Chapter 12	
Thurs 10/10	Kidneys	Chapter 12 Chapter 13	
Tues 10/15	Kidneys / Urinary System	Chapter 13	

Thurs 10/17	Continue Urinary	Chapter 13	Unit III Quiz due by 11:59 pm
Tues 10/22	Exam #3 in class		Exam #3
Thurs 10/24	Spleen	Chapter 10	
Tues 10/29	GI Tract	Chapter 11	
Thurs 10/31	Adrenal Glands/Retroperitoneum	Chapter 15 & 16	
Tues 11/05	Thyroid/Parathyroid	Chapter 17	Unit IV quiz due by 11:59 pm
Thurs 11/07	Exam #4 in class		Exam #4
Tues 11/12	Breast	Chapter 18	
Thurs 11/14	Breast		
Tues 11/19	Scrotum	Chapter 19	
Thurs 11/21	Prostate	Chapter 14	Unit 5 Quiz du by 11:59 pm
Tues 11/26	Exam #5 in class		Exam #5
Thurs 11/28	Happy Thanksgiving!!		
Tues 12/03	Review		
Thurs 12/05	Final Exam		Final Exam

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

DATE	TOPIC
08/27	Clean off ultrasound machines; Begin aorta
09/03	Scan aorta
09/10	Scan liver
09/17	Scan liver
09/24	Scan liver
10/01	Gallbladder/Biliary System
10/08	Gallbladder/Biliary System
10/15	Pancreas
10/22	Kidneys/Spleen
10/29	Kidneys/Spleen
11/05	Kidneys/Spleen
11/12	Thyroid/Male Scrotum/Breast
11/19	Practice for scan final
11/26	Scan Feast
12/03	Scan Final

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Lecture 85% (95% exams, 5% quizzes)

Lab 15% (65 % exams, 35% scan final)

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://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 use of tobacco products in class.
- Cellphones and any other electronic devices must be turned off while in class.
- Do not bring children to class.
- All assignments are due on the day and time when stated on syllabus unless the instructor makes a change.
 - a. Late assignments will have a 10 point deduction for every class day that the assignment is late. Missed in-class assignments receive a grade of zero.
- All exams will be on the dates specified unless the instructor makes a change. If an exam is turned in past the due date, the student will have a 10 point reduction on his/her test score. The score will continue to drop 10 points for every day following the test. Also, if the student attends any sonography classes on test day, he/she must take the test that day or a zero will be given.
- 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.
 - a. Cheating on any (lecture/lab) exam results in immediate dismissal from the program and an F for the course.
- **Exams will be taken in class.** In the event that is not achievable due to equipment issues or weather, exams may be taken online at the discretion of the instructor.
- If exams are to be done online you will be required to use LockDown Browser with Webcam Monitoring.

The rules for the tests are:

- Disable all notifications on your computer. This is how LockDown Browser is used to take a test.
 - Locate the “LockDown Browser” shortcut on the desktop and double-click it. (For Mac users, launch “LockDown Browser” from the Applications folder.)
 - If prompted to close a blocked program (e.g. screen capture, instant messaging) choose Yes.
 - Log into the course, navigate to the test and select it.
 - A Startup Sequence will guide the student through a webcam check and other items required by the instructor.
 - The test will then start.

20-point deductions for each of the following occurrences:

- Where you are taking your exam must be well lit. If it is not well lit, you will have 20 points deducted from your test.
- Your face must be visible the entire length of the test. If your face cannot be seen even for a few seconds you will have 20 points deducted from your test.
- No music should be playing nor should a TV/radio/video be on in the background.
- You may not read the questions out loud. If you do so, you automatically receive a 20-point deduction.
- You may not wear sunglasses, hats, hoodies, earbuds, headphones, etc. during the exam. Your ears must be fully visible the entire exam, failure to comply with this will be a 20-point deduction. If you do this on another exam it will turn into a 50-point deduction

50-point reduction or a zero on the entire test for each of the following:

- You must be in a private location. If another person is seen or heard while you are taking your test this could be misconstrued as cheating resulting in a 50-point reduction or a zero. That is up to the situation and your instructor.
- All phones, notes, books, and other papers must be removed from the testing location. If these items are seen during your exam, you receive an automatic zero on the exam.
- Do NOT leave the exam room for any reason, if you do, it is an automatic 50-point deduction.
- Any suspicious activity that appears to be cheating will result in a zero.

TESTING TIPS

You must use Google Chrome browser.

- You must have a webcam and a microphone attached to your computer
- Be prepared to scan the room with a camera, if you cannot move your computer, you will need to have a mirror available to assist with scanning the room.
- It is the student’s responsibility to ensure that ALL of the above requirements are met. By completing the verify signature portion of the exam, you are accepting responsibility for your actions during the exam. Failure to follow the requirements will result in deductions from your exam grade when reviewed by your Instructor.
- There is no extra credit given for this course.
- **You will get one test reset per semester!!**