

## **Abdominopelvic Sonography (DMSO 1341)**

**Credit:** 3 semester credit hours (3 hours lecture, 2 hours lab)



### **Course Description**

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

### **Required Textbook and Materials**

*Abdomen and Superficial Structures*, Diane M. Kawamura and Tanya D. Nolan, 4<sup>th</sup> Edition

- a. ISBN # 978-1-4963-5492-1

*Workbook for Diagnostic Medical Sonography: A Guide to Clinical Practice, Abdomen and Superficial Structures*

- a. ISBN# 978-1-4963-8057-9

### **Course Objectives**

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

Identify the sonographic appearances of normal abdominal and pelvic structures; explain physiology of abdominal and pelvic organs; and describe the appropriate scanning techniques according to standard protocol guidelines.

## 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

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Course Syllabi

- 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

### Grade Scale

- 93 – 100 A
- 85 – 92 B
- 77 – 84 C
- 69 - 76 D (not able to continue in sonography program)
- 68 and below F

### Course Evaluation

Final grades will be calculated according to the following criteria:

**Lecture is 85% of Grade**

5% Class participation/Homework assignments; Quizzes  
65% Exams  
30% Final Exam

**Lab is 15% of Grade**

100% Lab Protocols Average from DMSO 1101

### Course Policies

- 1. No food, drinks, or use of tobacco products in class.
- 2. Cellphones and any other electronic devices must be turned off while in class.
- 3. Do not bring children to class.
- 4. Students are expected to be in class unless prior arrangements have been made. Absences must be limited to serious illness and/or immediate family emergencies; unexcused absences are not allowed. Three (3) absences will result in a letter grade reduction. Excessive tardiness (more than 10 minutes/class or more than 2 consecutive classes) will result in an absence being awarded. **This includes lab!**
  - a. In the event that LIT is forced to cancel classes due to inclement weather, DMS classes and clinical rotation will also be canceled. Notification of closures will be made through local radio and TV stations. Students out of the immediate broadcast area should contact the Program Director for information. It is extremely important that students communicate with faculty regarding absences by telephone and/or email at all times.

5. All assignments are due when stated. Late assignments are not accepted. Missed in-class assignments receive a grade of zero.
6. All exams will be on the dates specified unless the instructor makes a change. In case of an absence on exam day, the exam must be completed on the day the student returns to class or a grade of zero will be awarded
7. There is no extra credit given for this course.
8. You will have the length of the class to finish an exam. No extra time will be given.
9. 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.
10. 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.
11. Please refer to the Diagnostic Medical Sonography Handbook for further policies.

### Technical Requirements (for courses using Blackboard)

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

[https://help.blackboard.com/en-us/Learn/9.1\\_2014\\_04/Student/015\\_Browser\\_Support/015\\_Browser\\_Support\\_Policy](https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy) A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

### Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building. You may also visit the online resource at <http://www.lit.edu/depts/stuserv/special/defaults.aspx>

### 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) or obtained in print upon request at the Student Services Office. 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.

