

DMSO 1110 Introduction to Sonography

CREDIT

1 Semester Credit Hours (1 hours lecture, 1 hour lab)

MODE OF INSTRUCTION

Face to Face

PREREQUISITE/CO-REQUISITE:

COURSE DESCRIPTION

An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues relating to registry, accreditation, professional organizations and history of the profession.

COURSE OBJECTIVES

- Upon completion of this course, the student will be able to:
 - Describe the historical development of ultrasound
 - List related professional organizations
 - Identify registry and lab accreditation requirements and process
 - Discuss clinical practice guidelines for sonographers
 - Explain medical, legal, and ethical aspects of the profession.

INSTRUCTOR CONTACT INFORMATION

Instructor: Lacey Stinebrickner, BGS, RDMS

Email: lfstinebrickner@lit.edu

Office Phone: 409-257-0061

Office Location: Gateway Room 112

Office Hours: Please see Starfish to schedule an appointment

REQUIRED TEXTBOOK AND MATERIALS

Introduction to Sonography and Patient Care Second Edition by Steven Penny

ISBN# 978-1-9751-2010-8

ATTENDANCE POLICY

Students are expected to be in class. Absences must be limited to serious illness and/or immediate family emergencies. 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!**



**LAMAR INSTITUTE
OF TECHNOLOGY**

- The terminology excused or not excused 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 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)
6-3	Basic Principles and Knobology	Chapter 8	
6-10	Continued		Unit I Reading Quiz Chapter 1 & 4 due by 6/16 at 11:59 pm
6-17	Test #1 (due by 6-19 at 7:00 pm)		
6-24	The Sonographer: A Closer Look	Chapter 2	
7-1	Continue; IV Insertion and Administration Techniques Lecture		Chapter 3 and Quiz due by 7/7 at 11:59 pm
7-8	Test #2 (due by 7-10 at 7:00 pm)		
7-15	Ergonomics, Ethical and Legal Responsibilities	Chapter 5, 6 & 7	
7-22	Continued		Unit III Reading Quiz Chapter 13 & 14 due by 7/28 at 11:59 pm
7-29	Cultural/Age Competency Lecture	Chapter 9	Signed sonography handbook. -10 off test if not turned in
8-5	Test #3 (due by 8/7 at 7:00 pm)		

8-12	Final Exam (due by 8-14 at 7:00 pm)		
------	-------------------------------------	--	--

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

DATE	Lab Activity
6-3	None
6-10	Review buttons on machines
6-17	Test #1
6-24	IV Administration using IV insertion arms
7-1	IV Administration using IV insertion arms
7-8	Test #2
7-15	IV Administration using IV insertion arms
7-22	Ergonomic exercises & Equipment
7-29	TBA
8-5	Test #3
8-12	Final Exam

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Exams	60%
Final Exam	20%
Unit Quizzes	10%
Observation	10%

GRADE SCALE

- 93-100 A
- 85-92 B
- 77-84 C
- 69-76 D
- 0-68 F

Course Outline

- A. Ergonomics
 1. Body mechanics
 - a. Patient positioning
 - b. Equipment ergonomics
 - c. Different types of ergonomically correct equipment
 2. Personal/environmental
 - a. Risk factors

- b. Personal fitness
- B. Professional Environment
 - 1. Academic Accreditation
 - 2. Professional organizations
 - 3. Continuing Educations for the Sonographer
 - 4. National certification
- C. Historical & Current Applications for Sonography
 - 1. Sonography Specialties
 - 2. History of ultrasound
 - 3. Developments in sonography
 - 4. Research, statistics and design
- D. Foundations for Sonography Students and The Sonographer
 - 1. Stress
 - 2. Time Management
 - 3. Educational Goals
 - 4. Classroom/Clinical skills
 - a. Student responsibilities
 - 5. Imaging Departments
 - 6. Work Ethics
 - 7. Communication
- E. Knobology and Instrumentation
 - 1. Transducer
 - 2. Acoustic Power
 - 3. Depth
 - 4. Caret
 - 5. Focus
 - 6. Calipers
 - 7. Body Markers
 - 8. Print
 - 9. Freeze
 - 10. Gain
 - 11. TCG Curve
 - 12. Color Doppler
 - 13. Pulsed Wave Doppler
- F. Sonography Terminology:
 - 1. Basic Physics of Acoustic Waves
 - 2. Structure Borders
 - 3. Sonographic Textures
 - 4. Sonographic Descriptive Terms
 - 5. Sonographic Artifacts
- G. Scanning Planes and Methods
 - 1. Landmarks
 - 2. Directional Terms
 - 3. Sagittal/Longitudinal Plane
 - 4. Transverse Plane
 - 5. Coronal Scan Plane
 - 6. Patient Positions
- H. IV Administration and Insertion Techniques
 - 1. IV and contrast administration supplies
 - 2. IV insertion procedure
 - 3. Bubble study

4. Contrast injection
5. CEUS evaluation of liver lesions
6. CEUS Technique and Instrumentation

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 \(lit.edu\)](http://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.

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 at the beginning of class when stated on the addendum. Late assignments will not be accepted and result in a grade of zero.
- All exams will be on the dates specified unless the instructor makes a change. If the student misses an exam due date, the student will be given a 0 after midnight on the day that it was due. Before midnight the day of the test, the score will drop 10 points for every hour the exam is late beginning with the time it was due. For example, if the test is due at 7:00 and the student turns in the exam at 7:01 the grade drops 10 points. At 8:00 pm, the grade will drop 20 points, etc. The time is set by the individual instructor so 7:00 pm is only an example.
- 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.
- Your exams will be online. You will be using LockDown Browser with Webcam Monitoring if the exam is done at home. 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 occurrence:

- 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

- 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

1. 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.
 2. 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 have the length of the class to finish an exam. No extra time will be given.
 - **Every student will attend 8 hours of observation at a location that is set up by the sonography program. Failure to complete this assignment will result in the student's dismissal from the sonography program.**