Introduction to Sonography (DMSO 1110)

Credit: 1 semester credit hour

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.

Required Textbook

Introduction to Sonography and Patient Care by Steven Penny
ISBN# 978-1-4511-9259-9

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.

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

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

Exams   60%

Final Exam   30%

Homework   10%

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. _Two (2) absences will result in a letter grade reduction_. This includes lab! Excessive tardiness (more than 10 minutes/class or more than 2 consecutive classes) will result in an absence being awarded.
   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. 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.

6. All assignments are due when stated. Late assignments are not accepted. If a student has absence assignments will be accepted at the beginning of class upon return. Missed in-class assignments receive a grade of zero.

7. 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.

8. 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.

9. During testing the student will place his/her backpack, books, etc. in the area designated by the instructor. Also, the student will put his/her cellphone into the provided basket and the cell phone will be returned after the test is turned in.

10. Class roll is taken by the sign in sheets. If you did not sign in you will be counted absent.

11. 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.

12. 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

13. There is no extra credit given for this course.

14. You will have the length of the class to finish an exam. No extra time will be given.

15. 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.

Please see the Sonography Student Handbook for program specific 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 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 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.