

## 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 and Materials

Essentials of Sonography and Patient Care – 3<sup>rd</sup> Edition; Marveen Craig; 2006 Elsevier Inc. ISBN# 978-1-4160-0170-6

### Course Objectives

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

1. Describe the historical development of ultrasound. (SCANS:C1, C5, C6, C7, C8, F1, F2, F5, F6, F11)
2. List related professional organizations. (SCANS: C1, C5, C6, C7, F1, F2, F5, F11 )
3. Identify registry and lab accreditation requirements and process. (SCANS: C1, C5, C6, C7, F1, F5, F11)
4. Discuss clinical practice guidelines for sonographers (SCANS: C1, C5, C6, C7, F1, F2, F5, F11)
5. Explain medical, legal, and ethical aspects of the profession. (SCANS:C1, C5, C6, C7, F1, F2, F5, F6, F11)

### SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools*. In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

### Course Outline

- |                                  |                 |
|----------------------------------|-----------------|
| A. Knobology and Instrumentation | 6. Calipers     |
| 1. Transducer                    | 7. Body Markers |
| 2. Acoustic Power                | 8. Print        |
| 3. Depth                         | 9. Freeze       |
| 4. Caret                         | 10. Gain        |
| 5. Focus                         | 11. TCG Curve   |

Approved 05/2010

**DMSO 1110**  
Course Syllabi  
Summer III 2010

- 12. Color Doppler
- 13. Pulsed Wave Doppler
- B. Sonography Terminology:
  - 1. Basic Physics of Acoustic Waves
  - 2. Structure Borders
  - 3. Sonographic Textures
  - 4. Sonographic Descriptive Terms
  - 5. Sonographic Artifacts
- C. 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**

|                     |   |
|---------------------|---|
| 100 – 93            | A |
| 92 – 85             | B |
| 84 – 75             | C |
| 74-68 (not passing) | D |
| 67-0                | F |

**Course Evaluation**

|                               |     |
|-------------------------------|-----|
| Exams                         | 60% |
| Final Exam                    | 30% |
| Group Project/Chapter Quizzes | 10% |

**Course Requirements**

- 1. Unit exams
- 2. Chapter Quizzes
- 3. Group project – Written paper with powerpoint presentation. Each group will teach their subject to the class. If you use the internet, be sure your sources are accurate. Use demonstrations if applicable to your subject matter. Presentation should be 10-15 minutes long and each person in the group must participate in the presentation.
  - a. Chapter 1 – History and Future of Ultrasound, Bioeffects of Ultrasound
  - b. Chapter 2 & 11 – Sonographer Development (journals, organizations, credentialing and national society)
  - c. Chapter 4 – Sonographer Safety Issues (work related injuries/ergonomics)
  - d. Chapter 5 – Basic Medical Techniques / Patient Care
  - e. Chapter 6 – Communications and Critical Thinking
  - f. Chapter 7 – Clinical Assessment and Sonographic Procedures; also to include Technical Standards (page 5 or 7 in Student Handbook)
  - g. Chapter 8 & 9 – Legal Aspects, Ethics and Professionalism

## **Course Policies**

1. No food, drinks, or use of tobacco products in class.
2. Beepers, telephones, headphones, 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. 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. If a student has an *excused absence* with written documentation, assignments will be accepted at the beginning of class upon return. 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. Any exam grade less than a 75 is unacceptable and will result in student being placed on academic probation. A score of 75 or greater final average on tests must be met to continue in the program.
7. 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.
8. Academic Dishonesty: "The Institute expects all students to engage in all academic pursuits in a manner that is above reproach and to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. The Institute may initiate disciplinary proceedings against a student accused of any form of academic dishonesty, including but not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials." (LIT Student Handbook, 2003-2004, p.55-57) See the Sonography Handbook for penalties.

*Please see the Sonography Student Handbook for program specific policies.*

### **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.

### **Course Schedule**

| <b>Date</b>           | <b>Topic</b>                        | <b>Assignments Due</b> |
|-----------------------|-------------------------------------|------------------------|
| June 9 <sup>th</sup>  | Knobology & Instrumentation         |                        |
| June 16 <sup>th</sup> | Exam #1                             | Chapter 1 Chapter Quiz |
| June 23 <sup>rd</sup> | Sonographic Descriptive Terms       | Chapter 2 & 11 Quiz    |
| June 30 <sup>th</sup> | Sonographic Descriptive Terms Cont. | Chapter 4 Quiz         |
| July 7 <sup>th</sup>  | Exam #2                             | Chapter 5 Quiz         |
| July 14 <sup>th</sup> | Scanning Planes & Methods           | Chapter 6 Quiz         |
| July 21 <sup>st</sup> | Scanning Planes & Methods Cont.     | Chapter 7 Quiz         |
| July 28 <sup>th</sup> | Exam #3                             | Chapter 8 & 9 Quiz     |
| Aug 4 <sup>th</sup>   | Projects                            |                        |
| Aug 11 <sup>th</sup>  | Final Exam                          |                        |

### **Contact Information:**

**Instructor:** Lacey Stinebrickner, RDMS  
**Office:** Office 210, MPC Building  
**Telephone:** (409) 839-2607  
**E-mail:** [lacey.stinebrickner@lit.edu](mailto:lacey.stinebrickner@lit.edu)  
**Office Hours:** TBA