

LAST REVIEW: 2009-2010 **NEXT REVIEW:** 2014-2015 **STATUS:** A
(i.e. 2003-2004) *(i.e. 2008-2009)* *(A, I, D)*

COURSE TITLE: Fundamentals of Sonography Lab I

COMMON COURSE NUMBER: SON 1003L

CREDIT HOURS: 1

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:

(Voc. Course ONLY)

Lecture: Lab: **32**

Clinic: Other:

PREREQUISITE(S): SON 1100 AND SON 1170

COREQUISITE(S): SON 1121, SON 1211, SON 1214, and SON 1804

PRE/COREQUISITE(S):

COURSE DESCRIPTION *(750 character smaximum)* This course incorporates an introduction to ultrasound scanning techniques using ultrasound equipment to practice the principles and protocols to the performance of adequate diagnostic sonographic imaging and Doppler procedures in a supervised setting.

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area

General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area

General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

UNIT TITLES

- 1. Vascular System**
- 2. Abdomen**
- 3. Urinary System**
- 4. Retroperitoneum**
- 5. Pelvis**
- 6. Small Parts**

ASSESSMENT:

Please provide a brief description (250 characters maximum) that details how students will be assessed on the course outcomes. **Cognitive and Psychomotor evaluations by observation of performance in required scanning activities.**

**** Complete the following only if course is seeking general education status ****

GENERAL EDUCATION Competencies and Skills*:

Please highlight in green font all Competencies/Skills from the list below that apply to this course. In the box to the right of the Competency/Skill, enter all specific learning outcome numbers (i.e. 1.1, 2.7, 5.12) that apply.

1. Read with critical comprehension	
2. Speak and listen effectively	
3. Speak and listen effectively	
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	
5. Demonstrate and apply literacy in its various forms: (highlight in green ALL that apply) (1. technological, 2. informational, 3. mathematical, 4. scientific, 5. cultural, 6. historical, 7. aesthetic and/or 8. environmental)	
6. Apply problem solving techniques to real-world experiences	
7. Apply methods of scientific inquiry	
8. Demonstrate an understanding of the physical and biological environment and how it is impacted by human beings	
9. Demonstrate an understanding of and appreciation for human diversities and commonalities	
10. Collaborate with others to achieve common goals.	
11. Research, synthesize and produce original work	
12. Practice ethical behavior	
13. Demonstrate self-direction and self motivation	
14. Assume responsibility for and understand the impact of personal behaviors on self and society	
15. Contribute to the welfare of the community	

** General Education Competencies and Skills endorsed by '05-'06 General Education Task Force*

Common Course Number SON 1003L

Unit 2 Abdomen

General Outcome:

- 2.0** The students should be able to demonstrate an understanding of diagnostic sonographic imaging and Doppler techniques applied to abdominal structures.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Demonstrate the following techniques for obtaining a diagnostic examination of the abdominal structures:
 - a. protocol
 - b. patient position
 - c. scanning planes
 - d. use of TGC
 - e. transducer selection and focusing
- 2.1 Recognize the normal sonographic patterns and appearance of the liver.
- 2.3 Explain and demonstrate scanning techniques and Doppler applications associated with obtaining sonographic examination of the liver.
- 2.4 Recognize the normal sonographic appearance of the gallbladder and biliary system.
- 2.5 Explain and demonstrate scanning techniques associated with obtaining sonograms of the gallbladder and biliary system.
- 2.6 Recognize the normal sonographic appearance of the pancreas.
- 2.7 Explain and demonstrate scanning techniques associated with obtaining sonograms of the pancreas.
- 2.8 Recognize the normal sonographic appearance and pattern of the spleen.
- 2.9 Explain and demonstrate scanning and Doppler techniques for the spleen and associated vasculature.

**Common Course SON 1003L
Number:**

Unit 3 Urinary System

General Outcome:

- 3.0** The students should be able to demonstrate an understanding of diagnostic sonographic imaging and Doppler techniques applied to urinary structures.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Demonstrate the following techniques for obtaining a diagnostic examination of the urinary system:
- a. protocol
 - b. patient position
 - c. scanning planes
 - d. use of TGC
 - e.** transducer selection and focusing
- 3.2 Recognize the normal sonographic appearance of the renals.
- 3.3 Explain and demonstrate scanning and Doppler techniques of renals and renal vasculature.
- 3.4 Recognize the normal sonographic appearance of the bladder.
- 3.5 Explain and demonstrate scanning and Doppler techniques of the bladder.

**Common Course SON 1003L
Number:**

Unit 4 Retroperitoneum

General Outcome:

- 4.0** The students should be able to demonstrate an understanding of diagnostic sonographic imaging and Doppler techniques applied to retroperitoneal structures.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Demonstrate the following techniques for obtaining a diagnostic examination of the retroperitoneal area:
 - a. protocol
 - b. patient position
 - c. scanning planes
 - d. use of TGC
 - e. transducer selection and focusing
- 4.2 Distinguish between normal and abnormal sonographic appearances of the retroperitoneum.
- 4.3 Explain and demonstrate scanning techniques associated with the retroperitoneum

**Common Course SON 1003L
Number:**

Unit 5 Pelvis

General Outcome:

- 5.0** The students should be able to demonstrate an understanding of diagnostic sonographic imaging and Doppler techniques applied to pelvic structures.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Recognize and identify the sonographic appearance of normal anatomic structures of the female pelvis, including anatomic variants and normal Doppler patterns (taken from either the transvaginal or transabdominal approach) associated with the following structures:
- a) normal ovaries
 - 1. follicles
 - 2. corpus luteum
 - b) normal uterus
 - c) pelvic muscles
 - d) pelvic vasculature
 - e) suspensory ligaments
 - f) peritoneal spaces
 - g) bowel
- 5.2 Explain and demonstrate transabdominal and transvaginal scanning techniques associated with the uterus.
- 5.3 Explain and demonstrate transabdominal and transvaginal scanning techniques associated with the ovaries.
- 5.4 Explain and demonstrate transabdominal and transvaginal scanning techniques associated with other various pelvic structures

**Common Course SON 1003L
Number:**

Unit 6 Small Parts

General Outcome:

- 6.0** The students should be able to demonstrate an understanding of diagnostic sonographic imaging and Doppler techniques applied to normal structures of the neck.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 Demonstrate the following techniques for obtaining a diagnostic examination of the thyroid, parathyroid, and surrounding neck area:
- a. protocol
 - b. patient position
 - c. scanning planes
 - d. use of TGC
 - e. transducer selection and focusing
- 6.2 Describe and demonstrate utilization of Doppler techniques and explain the role of Doppler in evaluating structures in the neck (spectral and/or color-flow)