

BROWARD COLLEGE

COURSE OUTLINE

LAST REVIEW: 2008 - 2009
(i.e. 2003-2004)

NEXT REVIEW: 2012 -2014
(i.e. 2008-2009)

STATUS: A
(A, I, D)

COURSE TITLE: Clinic D

COMMON COURSE NUMBER: SON 2834

CREDIT HOURS: 3

CONTACT HOUR BREAKDOWN
(per 16 week term)

CLOCK HOURS:
(Voc. Course ONLY)

Lecture: Lab:
Clinic: 384 Other:

PREREQUISITE(S): SON 1804, SON 1814, SON 1824

COREQUISITE(S): SON 2400

PRE/COREQUISITE(S):

COURSE DESCRIPTION *(750 character maximum)*: **A course designed to add additional clinical competencies to those gained in the specialties mastered in the first year. Emphasis on specialty of echocardiography with clinical application of classroom material presented. To continue to make judgment decisions regarding the technical aspects of diagnostic sonographic exams.**

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. Ultrasound Orientation
2. Patient Rapport and Department Protocol
3. Echocardiography Examination
4. Gynecological Examination
5. Obstetrical Examination
6. Abdominal Examination

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ASSESSMENT:

Please provide a brief description (250 characters maximum) that details how students will be assessed on the course outcomes.

Cognitive and psychomotor skills assess by observing successful completion of echocardiographic and other exams. Affective and cognitive ability assessed with Personal Professional Growth Assessment form and General progress and Proficiency Report

**** 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*

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Common Course Number: SON 2834

UNITS

Unit 1 Ultrasound Orientation

General Outcome:

- 1.0 The student shall:** demonstrate skills and knowledge of sonography of the heart, neonatal head and routine exams.

Specific Measurable Learning Outcomes:

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

- 1.1 Describe and list the various modes involved in sonography and echocardiography in particular
- 1.2 Name the major sectional parts and controls of an ultrasonic unit
- 1.3 Define various scanning techniques and Doppler techniques
- 1.4 Match sonographic procedures with patient preparation needed for examination
- 1.5 Demonstrate an understanding of the medical ethics involved in sonography
- 1.6 Perform routine exams of the abdomen and pelvis, both gravid and nongravid if appropriate to the assigned clinical affiliate
- 1.7 Demonstrate personal skills and qualifications of a sonographer.
- 1.8 Demonstrate the correct manipulation of the TGC and Doppler controls
- 1.9 Explain and use the various techniques of instrumentation required to create a diagnostic sonogram
- 1.10 Explain and use methods of patient preparation and care before and after a sonogram
- 1.11 Present a sonographic exam of the heart in completed form
- 1.12 Explain procedures for performing a sonographic exam of the heart using various windows and views
- 1.13 Demonstrate skills to develop and maintain the special relationship of the sonographer to the patient and to other persons in medicine
- 1.14 Demonstrate laboratory safety techniques as related to sonographic imaging units in the patient examination situation

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- 1.15** Use basic techniques for orientation and labeling of sonograms
- 1.16** Demonstrate skills needed to relate with tact and diplomacy with patients, physicians, nurses, other imaging personnel and the general hospital population
- 1.17** Demonstrate those characteristics that reflect the high degree of professionalism associated with the field of ultrasound

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Unit 2 Patient Rapport and Department Protocol. (a continuation and improvement of skills gained in the first year)

General Outcome:

2.0 The student shall: demonstrate an advanced understanding of patient-sonographer interactions particularly in the areas of echocardiography and will be able to follow Department protocol.

Specific Measurable Learning Outcomes:

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

- 2.1 Schedule patients for examinations
- 2.2 Prepare room and equipment for examination
- 2.3 Instruct patient concerning procedure
- 2.4 Prepare and position the patient for the scan
- 2.5 Accurately record the patient's history
- 2.6 Process the sonograms correctly
- 2.7 Identify on sonograms the anatomical structures concerned in the examination

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Unit 3 Echocardiography Examination

General Outcome:

- 3.0 The student shall:** demonstrate an understanding of anatomy, physiology and scanning procedures associated with sonographic and Doppler evaluation of the normal heart

Specific Measurable Learning Outcomes:

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

- 3.1 Perform a two-dimensional examination of the heart, with Doppler
- 3.2 Demonstrate the standard views of parasternal long axis, parasternal short axis (all), apical two and four chamber, subcostal and suprasternal notch
- 3.3 Perform two-dimensional, M-mode and Doppler scanning procedures for the evaluation of the mitral, tricuspid, pulmonic and aortic valves
- 3.4 Evaluate aortic, pulmonic, tricuspid and mitral valve performance and condition
- 3.5 Explain the difference between pulsed and continuous wave Doppler and the advantages and disadvantages of each
- 3.6 Demonstrate use of color-flow mapping
- 3.7 Distinguish between pulsed wave and continuous wave instruments spectral analysis display forms
- 3.8 Hook-up ECG to patient
- 3.9 Evaluate timing of cardiac events as related to ECG and 2-D image
- 3.10 Relate timing of cardiac events to Doppler spectrum and color-flow
- 3.11 Distinguish between normal cardiac anatomy and performance and pathological states
- 3.12 Present completed examination of a normal heart in detail with justification of all techniques, methods or procedures used to obtain data
- 3.13 Integrate patient history and physical findings to determine appropriate area(s) of interest for obtaining diagnostic examinations

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- 3.14 Demonstrate proficiency in the performance of cardiac ultrasound diagnostic procedures and understanding of the applications and limitations of each of these relationships
- 3.15 Explain the role of the sonographer in transesophageal echocardiography
- 3.16 Explain the uses and techniques used in stress echocardiography
- 3.17 Describe sonographic techniques used for contrast enhancement imaging of the heart

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Gynecological Examination (if appropriate to the assigned clinical affiliate for the Unit 4 term)

While the student need not be challenged for competencies in this area, it is expected that he/she will continue to develop skills in gynecological examinations

General Outcome:

- 4.0 The student shall:** demonstrate an understanding of procedures associated with sonographic examination of the gynecological patient

Specific Measurable Learning Outcomes:

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

- 4.1 Perform gynecological examinations, without assistance, following the protocol of the clinical affiliate
- 4.2 Present completed examinations in detail with justification of all techniques, methods or procedures used to obtain data
- 4.3 Identify normal anatomy and gross pathology of the pelvis both on sonograms and related imaging modalities
- 4.4 Utilize Doppler techniques as appropriate

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Unit 5 Obstetrical Examination - (if appropriate to the assigned clinical affiliate for the term)

While the students need not be challenged for competencies in this area, it is expected that he/she will continue to develop skills in obstetrical scanning.

General Outcome:

5.0 The student shall: demonstrate an advanced understanding of procedures associated with sonographic examination of the obstetrical patient

Specific Measurable Learning Outcomes:

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

- 5.1 Perform scanning procedures for an obstetrical exam in any stage of pregnancy
- 5.2 Determine fetal age
- 5.3 Determine fetal condition
- 5.4 Perform obstetrical examinations, without assistance, following the protocol of the clinical affiliate
- 5.5 Present completed examinations in detail, with justification of all techniques, methods or procedures used to obtain data
- 5.6 Identify normal anatomy and abnormal conditions/gross pathology of the obstetrical patient, both on sonograms and related imaging modalities
- 5.7 Utilize Doppler techniques when appropriate

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Unit 6 Abdominal Examination (if appropriate to the assigned clinical affiliate for the term)

While the students need not be challenged for competencies in this area, it is expected that he/she will continue to develop skills in abdominal scanning.

General Outcome:

- 6.0 The student shall:** demonstrate an understanding of procedures associated with sonographic examination of the abdomen

Specific Measurable Learning Outcomes:

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

- 6.1** Correlate patient history, laboratory results and sonographic appearance to offer assistance with a differential diagnosis
- 6.2** Perform all abdominal examinations, without assistance, according to the protocol of the clinical affiliate.
- 6.3** Present completed examinations in detail with justification of all techniques, methods or procedures used to obtain data
- 6.4** Identify normal anatomy and gross pathology of the abdomen, both on sonograms and related imaging modalities
- 6.5** Utilize Doppler techniques, spectral and color-flow, associated with abdominal vasculature