

**LANCASTER GENERAL COLLEGE OF NURSING AND HEALTH SCIENCES
DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM**

SYLLABUS

- I. Title: DMS 210 – DOPPLER PROCEDURES
- II. Course Description: This course will provide the student with an understanding of the uses of doppler ultrasound in the diagnostic evaluation of vascular disease. Instruction will include a discussion of the principles of doppler physics and instrumentation, blood flow hemodynamics, imaging protocols and scanning techniques. Classroom instruction will be coordinated with certain lab and clinical activities in DMS 214 course.
- III. Prerequisite: DMS 200
- IV. Placement: Year II – Semester II, concurrent with DMS 214
- V. Time Allotment: Theory 15 hours
Clinical Laboratory 0 hours
- VI. Faculty: Brent A. Miles, RDMS, RVT
- VII. Credits: 1
- VIII. Evaluation:
- | | | |
|---------------------|-----------|--------|
| 1 Unit Exam | 80 | Points |
| Quizzes | 30 | Points |
| Assignments | <u>20</u> | Points |
| Total Theory Points | 130 | Points |
- *A grade of "C" (2.0) is required to pass the theory portion of the course.**
- IX. Textbooks: UNDERSTANDING ULTRASOUND PHYSICS, Edelman, 2004
DIAGNOSTIC ULTRASOUND, Rumack, 2005
ATLAS OF HUMAN ANATOMY, Netter, 2006
LGH PROTOCOL MANUAL
SDMS GUIDELINES

- X. Course Objectives: Given the theoretical content, at the completion of Doppler Procedures, the student will demonstrate that he/she has the knowledge to:
1. Demonstrate an understanding of doppler ultrasound physics.
 2. Correlate knowledge of doppler ultrasound with equipment design and function.
 3. Explain the physical causes of doppler ultrasound imaging artifacts.
 4. Describe the potential bioeffects of doppler ultrasound exposure.
 5. Identify normal vascular anatomy on a sonographic image, describing the characteristic sonographic features and doppler blood flow patterns.
 6. Describe disease processes that may affect vascular anatomy.
 7. Recognize characteristic sonographic features and doppler flow patterns of specified abnormalities.
- XI. School Policies: Students are held accountable for all policies in the Student Handbook and any revisions made to those policies during the academic year.
- XII. Class:
- A. Importance of Attending Class
- Education comprises more than just private reading and passing of exams. Students should recognize that active and informed participation in class is essential to the development of their intellectual abilities and scholarly growth. Students must also recognize the importance, for both the present and the future, of achieving an academic record that reflects their intellectual ability. Such records are seldom achieved without regular attendance and participation in class activities. Attendance will be taken.
- B. Student Responsibility for Missed Material
- Students are responsible for all material presented and announcements made in class, regardless of attendance. It is the student's responsibility to obtain materials and assignments if absent.
- C. Unit Examinations
- Examinations should only be missed in extenuating circumstances. A student who misses an examination will be required to make up the examination on the next day of lecture. Contact the Course Faculty prior to the next lecture day to make arrangements to take the exam.
- A student who misses an examination, regardless of the reason, will have ten percent (10%) deducted from the grade achieved on the exam. Example: The exam is worth sixty (60) points, the student takes the exam and achieves a grade of 52/60. The score of 52 is then decreased by ten percent (10%) or five (5) points, thus the grade on the exam will be 47/60. An alternate examination may be given for the make-up examination.

D. Class Behavior

Once class has started, the instructor has the prerogative not to admit students into lecture. Students will be dismissed from class for any inappropriate behavior.

E. Written Assignments:

All submitted written work must follow the College of Nursing and Allied Health Writing Guidelines.

XIII. Other:

A. Academic Dishonesty and Plagiarism

Academic dishonesty violates the spirit and purpose of an academic community, and is therefore subject to disciplinary action. Academic dishonesty includes cheating on examinations, unauthorized duplicated submission of work, and/or unauthorized possession of exams.

Plagiarism is an act of academic dishonesty. Any work submitted that is not your own is an act of plagiarism. In preparing assignments, you must acknowledge in writing, any use of outside sources or any assistance you received in preparing an assignment.

If an instructor believes that a student has committed an act of academic dishonesty or has plagiarized material, the instructor will award a failing grade for that assignment to the student. If the occurrence is during an examination, the student will receive a zero for that portion of their grade and must leave the room.

If the student disagrees with this decision, the student may follow the grievance procedure.

XIV.

CONTENT	HOURS	STUDENT ACTIVITIES	COURSE OBJECTIVE
I. Vascular anatomy of head and neck A. Carotids B. Vertebrales C. Ophthalmics D. Circle of Willis E. Jugular Veins F. US Appearance	Class: 2 hrs	Rumack, Ch. 27 SDMS ABD,p. 145-8 Demo in the DMS 214 Lab. Lab Assign: Carotid #1 (3 hrs)	5
II. Doppler Physics & Instrumentation A. Doppler Effect B. Doppler Formulas C. Spectral Analysis D. Color Doppler E. Aliasing F. Carotid Protocol	Class: 7 hrs	Edelman, Ch. 18-20 Lab Assign: Carotid #2-4 (16 hrs) Demo	1-4
III. Carotid Artery Disease A. Normal Variations B. Degree of Stenosis C. Location of Stenosis D. Steal Syndrome	Class: 4 hrs		6,7
IV. DVT A. Disease Process B. Imaging Protocol	Class: 2 hr	Demo	6,7