Course Prefix/Number/Title: DMS-241 Vascular Ultrasound I

Number of Credits: 2
Course Description: This course is the study of the anatomy, normal findings and technical principles of ultrasound utilization in the hemodynamic considerations for assessment of cerebrovascular, peripheral and abdominal visceral imaging.
Pre-requisites: DMS-211
Corequisites: DMS-241L, DMS-212
Course Objectives: This course is integrated with DMS-241L, a hands-on sonographic scanning lab that focuses on the knowledge, skills and techniques for acquisition of vascular structures, as well as the appropriate sonographic protocols and image optimization of the vascular structures. Color and spectral Doppler applications will be applied to the appropriate anatomy.
Instructor: Amy Hofmann
Office: Suite 302 5th Ave Building, Trinity Health
Office Hours: 9 AM to 2 PM Tu, Th and by appointment
Phone: 857-5620
Email: amy.hofmann@trinityhealth.org
Lecture Schedule: 12:00 – 1:30 pm MW May 27 to August 21 in Suite 301
Lab Schedule: 3:00 – 4:30 pm MW May 27 to August 21 in Suite 301
Textbook: Pellerito J., Polak J. Introduction to Vascular Ultrasound, 6th ed.
Diagnostic Sonography, Hagen-Ansert, 8th Edition
Lab Manual: Trinity Health Clinical Education Handbook
Course Requirements:
Grading is based on completion of assignments, quizzes and test.

Assignments	15%
Quizzes	15%
Test	70%

Consistent with class attendance policy, the student is responsible for attending every class and for the material presented. If a student will not be attending a class, he/she must notify the Program Director prior to absence to plan for makeup time and activities.

Grading Criteria

A =	94-100% of the total points
B =	87 - 93% of the total points
C =	80 - 86% of the total points
F =	<79% of the total points

Tentative Lecture Outline:

WEEK	TOPIC	READING
1	hemodynamic considerations in vascular disease	Chapt 1
2	physics and instrumentation in Doppler	Chpt 2
3	basic concepts of Doppler spectrum analysis	Chpt 3
4	ultrasound and management of ascular disease	Chpt 5
5	normal cerebrovascular anatomy	Chpt 6

6	arterial anatomy of the extremities	Chpt 13
7	assessment of extremity arterial disease	Chpt 15, 17
8	ultrasound and managing extremity disease	Chpt 20, 21
9	anatomy and Doppler of abdominal vessels	Chpt 26-30
10	Duplex ultrasound evaluation of reproductive organs	Chpt 32,33
11	Review	
12	Testing	

General Education Competency/Learning Outcomes

After completing this course, student will be able to:

1. Describe fluid dynamics in volumetric flow, hydrostatic pressure, resistance applicable to human vasculature.
2. Describe physiology and hemodynamics involved in peripheral vascular and cerebrovascular blood flow imaging.
3. Discuss normal cerebrovascular anatomy and collateral pathways.
4. Describe peripheral arterial and venous anatomy in relation to ultrasound evaluation And assessment of disease.
5. Describe abdominal and reproductive visceral anatomy and ultrasound assessment Techniques to include aorta, native renal vessels, mesenteric and reproductive organs.

Relationship to Campus Theme:

This course addresses a DMS Program theme by developing the knowledge and psychomotor scanning skill sets necessary to perform cerebrovascular, extremity and abdominal visceral vascular imaging. Students will be instructed by utilizing the protocols and techniques that are currently used in sonographic imaging.

Classroom Policies

1. Cell phones and related devices are prohibited in the classroom at all times. It is recommended that you do not bring your cell phone or other electronic devices into the classroom or, at the very least, turn it off.
2. Food and beverages are permitted in accordance with classroom policy.
3. Be respectful of other students, instructors, and guests.

Student Email Policy

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

Disabilities and Special Needs

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services within the first two weeks of the semester to line up accommodations.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX Webpage.