

**Course Prefix/Number/Title:** DMS 242 Vascular Ultrasound II

**Number of Credits:** 2

**Course Description:**

This course is focused on the knowledge, skills and techniques for sonographic acquisition of vascular structures, as well as the appropriate sonographic protocols and image optimization of the vascular structures. Upon completion of this course, students will be able to identify anatomy and describe physiology and hemodynamics involved in cardiovascular and peripheral vascular imaging. Color and spectral Doppler applications will be applied to the appropriate anatomy. It is integrated with DMS 242L Vascular II Lab which will be focused on scanning labs of lower and upper extremity venous and lower extremity arterial sonographic and physiologic diagnostic imaging and testing.

**Pre-requisites:** DMS 241, DMS 241L

**Corequisites:** DMS 242L, DMS 224, DMS 250, DMS 285

**Course Objectives:**

1. Describe physiology and hemodynamics involved in peripheral vascular blood flow and imaging.
2. Identify peripheral venous and arterial vessel anatomy on diagrams and on images.
3. Describe peripheral arterial and venous anatomy in relation to ultrasound evaluation and assessment of disease.
4. Describe Doppler spectrum analysis and color flow imaging related to peripheral vascular imaging and assessment of disease.

**Instructor:** Amy Hofmann/Keshia Gathman

**Office:** Suite 302 5<sup>th</sup> Ave Building, Trinity Health

**Office Hours:** 9 AM to 2 PM Tu, Th and by appointment

**Phone:** 857-5620

**Email:** [amy.hofmann@trinityhealth.org](mailto:amy.hofmann@trinityhealth.org)

**Lecture Schedule:** 10:30 -12:30 pm Tu, January 9 to May 10 in Suite 301

**Lab Schedule:** 8:30 – 10:30 am Tu, January 9 to May 10 in Suite 301

**Textbook:** Diagnostic Sonography, Hagen-Ansert, 8<sup>th</sup> Edition; Pellerito J., Polak J. Introduction to Vascular Ultrasound, 6th ed.

**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:**

<u>WEEK</u>	<u>TOPIC</u>	<u>READING</u>
1/8	Anatomic and physiologic relationships within thoracic cavity	Chapter 30
1/15	cont	
1/22	extracranial cerebrovascular evaluation	Chapter 37
1/29	cont.	
2/5	cont.	
2/12	intracranial cerebrovascular evaluation	Chapter 38
2/19	cont.	
2/26	cont.	
<b>3/4</b>	<b>March 4-8 SPRING BREAK</b>	
3/11	Comprehensive Review	
3/18	“ “	
3/25	“ “	
4/1	“ “	
4/8	review peripheral arterial and venous anatomy, physiology	
4/15	review vascular physiologic Duplex testing risk factors, signs, symptoms, mechanisms of venous disease and processes	
4/22	Review Doppler spectrum analysis and color flow imaging	
4/29	cont.	
5/6	Final Test	

**CTE Competency/Department Learning Outcome(s):**

CTE Competency #1: Employ industry-specific skills in preparation for workplace readiness.

Learning outcome #1 – Students will be able to formulate effective technical factors based on patient body habitus, pathology and equipment limitations. SLO 1.1

Learning outcome #2 – Students will demonstrate ability to critically evaluate completed images for diagnostic quality. SLO 1.2

**Relationship to Campus Focus:**

This course addresses a DMS Program focus by developing the knowledge and psychomotor scanning skill sets necessary to perform 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, get instructor permission to use approved devices as classroom learning resources.
2. Food and beverages are permitted in accordance with classroom policy.
3. Be respectful of other students, instructors, and guests.

**Student Email Policy**

Student must provide Trinity Health DMS faculty with a personal email address for communication while in the program. Additionally, affiliated college and university (Dakota College at Bottineau and Minot State University) are 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**

Dishonesty in the classroom or laboratory and with assignments, quizzes and exams is a serious offense and is subject to disciplinary action by the DMS Program Director. For more information, refer to the Trinity Health DMS Program Handbook policies. Additionally, 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**

Trinity Health, Minot State University and 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.