



Course Prefix/Number/Title: DMS 201 Foundations of Sonography (2025)

Number of Credits: 3 semester credits

Course Description:

This course is designed to provide the student with basic introductory knowledge of diagnostic medical sonography. Physical principles, instrumentation, equipment operation and patient procedural preparation concepts are presented as an introduction into ultrasound including medical applications. Students will also be introduced to medical and sonographic terminology, OSHA safety regulations, infection control, disease transmission, ergonomic optimization to reduce Work Related Musculoskeletal Disorders (WRMSDs) and CDC's Standard Precaution guidelines. This course is completed during the first month of the DMS program in preparation of clinical experiences.

Pre-requisites: General Post-Secondary Courses

Course Objectives:

The goal of this course is to familiarize the student with policies, procedures and terminology applicable to the program, the radiology department and Trinity Health. The student will learn what is expected of them while enrolled in the DMS program, be oriented to the hospital campus, review pertinent program and Trinity Health policies and the Clinical Plan. Description of the roles, responsibilities and the rules of the Diagnostic Medical Sonographer will be introduced, also the indication and applications of the diagnostic procedures, safety, protection and imaging processing will be covered. Students will learn through observation, scanning and application of knowledge obtained during didactic coursework and scanning labs. Student will be directly supervised.

Objectives:

1. Understand the locations of and general daily operation of the DMS program and sonography, and radiology department at Trinity Health.
2. Become familiar with pertinent Trinity Health and DMS program policies
3. Develop a basic knowledge of OSHA safety requirements and Center for Disease Control (CDC) Standard Precautions.
4. Develop an understanding of proper patient care, treatment and confidentiality.
5. Achieve Basic CPR Certification
6. Develop a basic understanding of sonographic imaging principles and operation of sonographic imaging equipment used in the department.
7. Establish EMR, PACS and clinical time/activity record systems (Trajecsys) accounts.

Instructor: Amy Hofmann, Keshia Gathman

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Office Hours: M-Th 3:00-5:00 and by appointment

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Lecture Schedule: 9:00 – 3:00 pm M-F, August 26th to Sept 19th in MAC Skywalk Rm A

Lab Schedule: Scanning Thyroid, Aorta, OB Phantom; Classroom, MAC, MOB

Textbook: Diagnostic Sonography, Hagen-Ansert, 9th Edition; Workbook Diagnostic Sonography, Hagen-Ansert, 9th Edition; Introduction to Sonography and Patient Care, S. Penny, 2nd, edition

Lab Manual: NA

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 Course Outline:

Date	Topic	Assignment/Quiz/Test
8/25	Trinity Health Orientation	Trinity Hospital 2305 37 th Ave SW
8/26	Introductions, DMS 201 Syllabus Handbook Policies&Procedures PPT	DMS Handbook Overview
8/27	Foundational Concepts PPT Preparing for Class & Clinical	Read Ch 1 Foundations S. Penny Assignment #1 Ch 1 SP terms, Due 8/29
8/28	Sonography & Medical Terms PPT Sonographic Instruments PPT	Read Ch 1 Foundations of Sonography, S. Hagen-Ansert Assignment #2 Ch 1 HA, Due 9/2 Complete HA Ch 1 Exer 1-5 Workbook
8/29	Trajecsys Student Clinical Accounts Mandatory Education Modules	MAC Classroom 3 rd Floor

9/1	Labor Day NO Class	
9/2	Student Introductions Instrumentation/Knobology PPT	Introducing YOU! PPT by Students Quiz #1 on Ch 1 S. Penny terminology Read Ch 8 Basic Principles, S. Penny Complete SP Ch 8 Review Questions 1-20
9/3	Classroom GE Machine Overview Basic Patient Care, Ch 2 HA PPT	Quiz #2 Sonography & Medical Terms Read Ch 2 S. Hagen-Ansert
9/4	Classroom Lab, Scan Thyroid Infection Control, Patient Rights PPT	Cont. Ch 2 S. Hagen-Ansert Complete HA Ch 2 Exer 1-5 Workbook
9/5	Classroom Lab, Scan Thyroid No Class	
9/8	Classroom Lab, Scan Aorta Ergonomics, WRMSD PPT	Quiz #3 Sonography Foundations, Terms Read Ch 3 Hagen-Ansert Assignment #3 Ch 3 HA & Ch 5 SP Complete HA Ch 3 Exer 1-3 Workbook
9/9	Classroom Lab, Scan Aorta Ergonomics cont.	
9/10	Classroom Lab, Scan OB Phantom A&P Abdominopelvic Ch 4 HA PPT	Quiz #4 Essential Patient Care Ch 2 HA Read Ch 4 Hagen-Ansert Complete HA Ch 4 Exer 1-8 Workbook
9/11	Classroom Lab, Scan OB Phantom A&P Ch 4 Cont	
9/12	Classroom Lab, Scan Pelvis Phantom	Quiz #5 Ergonomics, WRMSD Ch 3 HA
9/15	Classroom Lab, Scan Pelvis Tour Trinity Hospital, MOB Trajecsys (Clinical Time) Overview Basic US Techniques Ch 6 HA PPT	Read Ch 6 Hagen-Ansert Assignment #4 Ch 6 HA Complete HA Ch 6 Exer 1-5 Workbook
9/16	Cerner (EMR/HIS/RIS/PACS) Overview Patient History Lookups Letter to Future Self	
9/17	Sonographic Exams & Guidelines, Transducers and Scanning Planes PPT	Quiz #6 Basic US Techniques Ch 6 HA Read Ch 14 S. Penny Assignment #5 Ch 14 SP Complete SP Ch 14 Review Questions 1-20
9/18	Sonographic Exams & Guidelines Cont.	
9/19	Test Review	Hagen-Ansert Ch 1, 2, 3, 4, 6 S. Penny Ch 1, 8, 14

CTE Competency/Department Learning Outcomes:

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

Learning outcome #1 - Students will demonstrate professional behavior in the classroom and

clinical setting by modeling ethical health care standards related to HIPAA, patient rights, dignity, respect and compassion. SLO 3.2

Relationship to Campus Theme:

This course addresses a DMS Program theme by introducing students to foundational sonography concepts to include overview of diagnostic sonography procedures and other primary technologies that are currently used in sonographic imaging.

Classroom Policies

1. Cell phones and related devices are monitored 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

The Dakota College at Bottineau campus community is increasingly dependent upon electronic communication among faculty, staff and students. A student's campus-assigned e-mail 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 email because of a failure to access a campus-assigned e-mail address rests with the student. Additionally, student must provide Trinity Health DMS faculty with a personal email address for communication while in the program.

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. Additionally, 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.

Disabilities and Special Needs

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor, DMS Program Director and Disability Support Services.

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.

AI Student Policy:

Unless otherwise indicated in the course syllabus, or in individual instructions for course assignments, or in the absence of the express consent of the course instructor, students are not allowed to utilize generative AI to help produce any of their academic work. Any violation of this policy will be considered an act of academic dishonesty as outlined within the Dakota College Code of Student Life.

RESPONSIBILITIES

Students	• Responsible to follow the syllabus and assignment instructions regarding use of generative AI for all academic work. • Obtain permission of the instructor prior to the use of generative AI that is outside of the syllabus or assignment instructions. Provide appropriate rationale for how the use of generative AI will enhance the learning experience for the assignment. • In instances where generative AI is permissible, appropriately cite the generative AI program used and indicate where in the assignment it was used, in a brief submission statement.
Faculty	• Determine if the use of generative AI could enhance student learning in any assignment or project. • Clearly indicate in all course syllabi if generative AI is allowable for any academic work. • If allowable, give specific parameters for how and when generative AI may be used. • If a violation of generative AI for the individual course/syllabus is suspected, discuss the concern with the student. If violation is still suspected, inform the appropriate semester coordinator/program director.